Five Clinical Lectures
ON
THE CAUSATION AND PREVENTION OF PHTHISIS.[1]

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LECTURE II.[2]

GENTLEMEN,—If we take the preliminary facts which I brought before you in my last lecture as the premisses we must conclude: (1) that phthisis is an infectious and communicable disease dangerous to the public health (the same statement, of course, applies to all tuberculous affections in which the tubercle bacillus or its spores are given off from the bodies of affected persons, either in the sputum, in the fæcal discharge, in the urine, in the discharges from diseased bones, joints, &c.[3]); and (2) that phthisis and all other forms of tuberculous disease are preventable affections.

Now whether an individual who has been exposed to infection will contract a contagious or infectious disease or not depends upon two main factors—viz.: (1) the intensity of the poison; and (2) the resisting power or susceptibility of the individual.

The intensity of the poison depends upon (*a*) the dose, whether large or small, and in this connexion it is important to remember that the number of tubercle bacilli which the sputum of phthisis contains varies in different cases of phthisis and at different stages of the same case; (*b*) the source of infection and the channel through which the poison is introduced into the system (whether in the form of dried sputum inhaled and introduced into the respiratory or gastro-intestinal tracts, in the form of tuberculous milk introduced into the gastro-intestinal tract, or by inoculation, &c.); and (*c*) the virulence of the poison, germ poisons varying in their intensity from time to time—i.e., under different circumstances.

The resisting power of the individual depends upon (*a*) his inherent or constitutional peculiarities, his "vital resistance," as it has been termed, some persons being more susceptible to certain poisons than others; (*b*) his condition of health at the time when the virus is introduced into his system; and, especially in the case of phthisis, (*c*) the condition of the tissues and organs with which the tubercle bacillus or its spores are first brought into contact. In other words, the resisting power of the tissues varies in different families and in different individuals, and the resisting power of the individual may be temporarily modified (lowered or increased) in accordance with his condition of health, and in the case of some of the contagious and infectious diseases—and probably this applies with special force in the case of phthisis—in accordance with the condition of the tissues with which the virus happens to come in contact when it is first introduced into the system.

But although phthisis—limiting the argument to the more important form of tuberculous disease so far as the risk of infection and contagion from one human being to another human being is concerned—must, under certain circumstances, be regarded as an infectious and communicable affection, and although every human being is probably, under certain circumstances (provided, for example, that a large dose of the poison or a dose of very virulent tubercle bacilli is introduced into the system, or provided that the resisting power of the organism, as a whole, or of the individual tissues with which the tubercle bacillus first comes into contact, in particular, is for some reason or another lowered or diminished), liable to be affected with tubercle, phthisis differs very materially from most of the other contagious and infectious diseases in this most important particular, that it is only very slightly infectious and communicable. In other words, the risk which a perfectly healthy person, whose sanitary surroundings are satisfactory, runs of contracting phthisis or other forms of tuberculous disease from being in contact with a person affected with phthisis appears to be very slight. This is shown by the fact that a healthy wife seems comparatively rarely to contract the disease from a phthisical husband whom she nurses all through his illness; and *vice versâ*. After the discovery of the tubercle bacillus by Koch the British Medical Association issued (on Jan. 6th, 1883) a circular to all of its members with the object of trying to determine the opinion of the profession with regard to the communicability of phthisis. That circular was as follows:—

> Have you observed any case or cases in which pulmonary phthisis appeared to be communicated from one person to another?
> Please answer "Yes" or "No."
> If more than one case observed say how many.
> In the event of your having observed any case or cases the committee will be further obliged if you will give any brief particulars you may think worthy of record. In doing so the following points should be noted:—
> 1. The date when the observation was made.
> 2. The relationship, if any, between the individuals concerned.
> 3. The presence of family predisposition to the disease. It should be particularly noted whether the disease had occurred in the parents, grandparents, and other relatives, or only in the brothers or sisters of the person to whom the disease was communicated.

In response to this circular 1078 replies were received.

> A great number of these returns (673) were simple negatives, containing only the word "No," meaning that no case had been observed by the member making the return but without any expression of opinion. These returns, admitting of no further analysis, have been set aside. The remaining answers contained observations of some kind and these have been classified as follows:—Class 1, affirmative observers, 261; Class 2, doubtful observers, 39; and Class 3, negative observers, 105. Out of the 1078 members of the Association who have returned answers to the questions issued on this subject at least 261 believe they have seen cases of phthisis which have originated in communication from one person to another, about 39 more have seen cases which have made them doubtful whether phthisis may not be so communicated; while 105 offered facts and arguments which seemed to them to negative such a view. 158 of the affirmative returns refer exclusively to cases observed between husband and wife. Communication between husband and wife is mentioned, together with other cases, in 34 of the remaining returns. So that 192 observers report cases of supposed communication of phthisis occurring between husband and wife.
> Of the cases in which it is distinctly specified which partner conveyed it to the other, in 119 it is stated that the disease was transmitted *from* husband *to* wife; in 69, *from* wife *to* husband. It is distinctly stated in 130 of these cases that there existed *no family predisposition* to phthisis in the partner to whom it was supposed to be conveyed.

In summarising these returns the Collective Investigation Committee of the British Medical Association states:—

> One fact these returns seem to establish beyond any question, and that is, that if phthisis is a communicable disease it is so only under circumstances and conditions of extremely close personal intimacy, such as persons sharing the same bed or the same room or shut up together in close, ill-ventilated apartments.[4]

In his great work on "The Diseases of the Respiratory Organs" the late Dr. Wilson Fox summarises his conclusions as to the frequency with which phthisis is contracted by a husband from a wife and *vice versâ* in the following statement:—

> I have already attempted to show that the large majority of the cases of husband and wife which form the greater proportion of all the returns (66 per cent. "Coll. Inv.," 87 per cent. Clay) are either not more in number than can be explained by the natural prevalence of phthisis apart from contagion or may be due in both partners to their exposure to the same cause.[5]

Although I am personally disposed to think that the percentage of cases in which a wife contracts phthisis from a phthisical husband and *vice versâ* is probably considerably greater than the results of the Collective Investigation Committee of the British Medical Association show, and certainly very much greater than Dr. Wilson Fox allows, we may take it that a healthy wife, more especially when her sanitary surroundings are good, comparatively rarely contracts phthisis from a tuberculous husband, and *vice versâ*. Now the number of wives unaffected with phthisis who nurse their husbands who are affected with phthisis all through the course of the disease is very great and the number of persons unaffected with phthisis who live in the

[1] Lectures I., II., and III. were delivered in abstract at the Edinburgh Royal Infirmary in March, 1899; Lectures IV. and V. were delivered in the form of an address to the Fifeshire Medical Association at Kirkcaldy on May 5th, 1899.

[2] Lecture I. was published in THE LANCET of July 5th, 1902, p. 6.

[3] In some tuberculous affections (as, for example, in tuberculous meningitis and in some cases of acute tuberculosis) in which there is no expectoration, no diarrhœa, no affection of the genito-urinary tract, and no discharge from diseased bones and joints, the tubercle bacillus is not given off from the bodies of the affected persons. Such forms and cases of tuberculous disease are not, therefore, so long as there is no discharge of tubercle bacilli or their spores from the bodies of the patients, infectious and communicable, though they may, at any period of their course, become so.

[4] Report of the Collective Investigation Committee of the British Medical Association, July, 1883.

[5] Diseases of the Lungs, p. 563.

closest contact with their wives who are affected with phthisis is also very great. So far as I see there is only one conclusion to be drawn from these facts—the conclusion which has just been stated—viz., that although every case of phthisis is due to the introduction into the body of the tubercle bacillus the disease is only slightly infectious in the case of perfectly healthy persons and that the risk which a perfectly healthy person whose sanitary surroundings are quite satisfactory runs of contracting phthisis from being in contact with a patient affected with phthisis is very much less than one might *a priori* suppose.

Further, this opinion seems to be supported by the fact that although it is probable from the extreme prevalence of phthisis in this country, more especially in our towns, that almost every practitioner of medicine must over and over again have inhaled the tubercle bacillus or its spores, yet comparatively few practitioners of medicine contract phthisis. The fact to which Sir Hugh Beevor draws attention, that the sparse populations of country districts die from phthisis in as large proportion as the population of towns provided only that the factor of overcrowding is eliminated shows how widely diffused the poison (the tubercle bacillus and its spores) must be. In other words, the susceptibility of the individual who is exposed to infection is a most important factor in determining whether he will become infected or not. From a practical point of view—viz., whether the individual will actually become affected with phthisis or not—the mere fact of exposure to infection (i.e., the introduction of the bacillus into the body), though essential for the production of the disease, seems to be of less importance than susceptibility of the individual who is exposed to infection. Or, as Sir Hugh Beevor puts it: "When death returns and local agencies inducing susceptibility are considered together they confirm the common opinion—avoiding susceptibility one avoids infection."[6] Personally I am disposed to think that, speaking generally, a *perfectly healthy* person who inhales the tubercle bacillus runs very little risk of contracting phthisis, and in holding this opinion I am quite in accord with many of the very highest authorities on the subject. Thus Dr. Wilson Fox[7] states: "There are few writers who have not admitted the possibility of some contagion but I venture to think that the evidence as it stands shows that, even if this possibility has an authentic foundation, the extent and degree to which contagion ordinarily extends is singularly small." Dr. J. K. Fowler[8] states: "Now it may be at once admitted that, having regard to the wide prevalence of the disease, the number of cases in which it has been proved to have been directly transmitted from one human being to another is infinitesimal. The possibility is generally admitted; the frequency of its occurrence is a much disputed question." Dr. J. Niven[9] states: "Tuberculosis is a disease not readily or easily acquired, and the onset of phthisis marks either exposure to intense infection or else some profound weakness." And again: "It is universally admitted that although tuberculosis is an infectious disease it is generally, more than any other infectious disease, dependent on assisting causes for its propagation." In short, it would appear that for the production of primary phthisis in the human individual not only is the introduction of the poison into the body—usually the lung or some part of the respiratory tract—necessary, but that, in most cases at all events, the lung or some part of the respiratory tract must be in an abnormal or diseased condition or the resisting power of the individual lessened (either as the result of inherited or acquired weakness); in other words, a suitable nidus must (usually) be present (generally in some part of the respiratory apparatus) to allow the tubercle bacillus or its spores, which have (usually) been inhaled, either to take root and develop or to be conveyed to the glandular structures in the neighbourhood.

I have long considered it probable that in many cases in which tuberculous disease is developed in the human subject the tubercle bacilli or their spores which happen to lodge upon an abraded or unhealthy (or perhaps even a healthy) surface, do not produce local disease at the point where they fall but are either: (*a*) absorbed and conveyed by the lymphatic vessels to the adjacent lymphatic glands where they lodge and subsequently develop; or (*b*) are carried by the blood-vessels or lymphatic glands to more distant tissues and organs—i.e., without producing any local (tuberculous) disease in the lymphatic glands in immediate connexion with the surface on which they lodge. It is extremely difficult to explain in any other way the development of tuberculous disease in the bones, joints, membranes of the brain, &c., in those cases in which careful post-mortem examination fails to detect any other tuberculous lesions or caseous foci in the body—cases in which, in other words, the tuberculous disease in the bones, joints, membranes of the brain, cerebellum, or other tissues appears to be *primary*. Absorption from the tonsil and throat, or from the intestinal and respiratory mucous surfaces, is in all probability an important source of tuberculous disease of the cervical, mesenteric, and bronchial glands, without, be it observed, any local tuberculous disease in the tonsil, intestine, lungs, or bronchi. But I doubt whether tubercle bacilli which lodge on an absolutely healthy tonsil or an absolutely healthy intestinal, bronchial, or respiratory mucous membrane have any great tendency to produce local tuberculous disease in the part with which they come in contact—granting, of course, that the resisting power of the tissues is normal. Further, it is perhaps doubtful—though on this point one must necessarily speak with hesitation—whether tubercle bacilli are absorbed from the healthy mucous surface of the tonsil, intestine, or bronchi, though it is possible, of course, that such may be the case. If, however, the tubercle bacilli are, in consequence of an abraded or unhealthy condition of the mucous surface, absorbed and carried to the lymphatic glands in the neighbourhood, it is, I think, highly probable that they will produce (though I do not think that they will necessarily do so in all cases) local tuberculous disease in the lymphatic gland, even in the absence of local disease of the lymphatic structures, more especially, perhaps, in persons of a scrofulous or tuberculous tendency—i.e., in persons in whom, either as the result of inheritance or other cause, the "vital resistance" is below the normal, or who are unduly susceptible to the irritation of the tubercle bacillus. This point, however, is difficult to prove, for it must be remembered that the mere fact that there is absorption from an abraded or unhealthy mucous surface implies that irritating particles other than the tubercle bacilli are conveyed (as well as the tubercle bacilli) to the lymphatic gland, and consequently that, as a result of the absorption of such irritating particles, the lymphatic gland in which the tubercle bacilli lodge may be irritated and inflamed and may in consequence of such irritation be transformed into a suitable nidus for the development and growth of the tubercle bacillus. Provided that the nasal, pharyngeal, and respiratory mucous membranes (tonsils, larynx, trachea, bronchi, and especially minute bronchi and terminal air cells, &c.) are in an absolutely healthy condition there seems to be little risk (at least, this is my opinion) of the production of phthisis from inhalation of the tubercle bacillus or its spores. Under such circumstances the seed falls on barren ground and does not take root and germinate and develop.

This supposition—which is of the greatest practical importance—is, I think, very strongly supported by the fact that it is only in a certain proportion of cases of phthisis that the larynx and intestine become affected. In almost all cases of phthisis multitudes of tubercle bacilli pass over and lodge on the laryngeal mucous membrane in the course of 24 hours and in most cases of phthisis the disease continues for many months or even years. Now if the mere lodgment of the tubercle bacilli on the mucous membrane were sufficient to produce phthisis—in persons, be it observed, who are susceptible to tuberculosis as is proved by the fact that they are actually affected with the disease—the larynx ought to become affected in every case of phthisis. For the same reason in almost every case of phthisis the intestine ought to become affected with tubercle, for it can hardly be doubted that in almost every case of phthisis some of the sputum is swallowed, and consequently that in almost every case of phthisis multitudes of tubercle bacilli must come in contact with the intestinal mucous membrane. But as a matter of fact it is only in a certain proportion of cases of phthisis that the intestinal tract becomes affected with tubercle.

These facts, then, would seem to show that the mere introduction into the respiratory apparatus or gastro-intestinal tract of the tubercle bacillus is not usually of itself sufficient to produce phthisis or tuberculous ulceration of the intestine; in other words, that tubercle bacilli which lodge on a perfectly healthy mucous membrane do not usually grow and develop and produce tubercle. In short, it would appear that the mere introduction of the seed (the

[6] THE LANCET, April 15th, 1899, p. 1013.
[7] Diseases of the Lungs and Pleura, p. 564.
[8] Diseases of the Lungs, p. 308.
[9] Manchester Medical Chronicle, vol. vii., 1897, pp. 2 and 10.

tubercle bacillus or its spores) is usually not of itself sufficient to produce phthisis, but that a second factor, a suitable condition of the soil—a suitable nidus—for the growth and development of the seed is generally required for the production of phthisis. It is necessary, therefore, to consider in the next place the conditions which produce or which favour the production of this suitable nidus.

The influence of heredity.—Of late years there has undoubtedly been a tendency to under-estimate the importance of hereditary influence as a predisposing cause of phthisis. Before the discovery of the tubercle bacillus hereditary influence was thought to be the essential, the most important cause, the direct cause of the disease. After the discovery of the tubercle bacillus and the recognition of the fact that tuberculous disease is always due to the introduction into the body of the tubercle bacillus and is, practically speaking, never otherwise developed, the part which heredity plays in the causation of phthisis was rightly thought to be much less important, and was, indeed, by some entirely ignored.

That there is in many families a hereditary tendency to phthisis and other forms of tuberculous disease cannot, I think, be denied. The fact that insurance offices "load" persons whose parents or near relatives have died from phthisis shows the importance which they and their medical officers, as the result of their experience, attach to heredity as a cause of phthisis. At the same time it must be remembered that in many cases in which phthisis or other forms of tuberculous disease appear to be inherited it is not necessary to assume any hereditary predisposition in order to explain the occurrence of several cases of the disease amongst members of the same family. The children of a phthisical parent may, for example, be infected by the sputum of the diseased parent; the house in which the family live may be the source of infection (i.e., both the parent and the child may be infected from a common source); the circumstances and surroundings of the family, quite apart from any inherited tendency, may predispose to the production of the disease. Still, allowing for these sources of fallacy, it must, I think, be admitted that hereditary predisposition in many instances plays an important part in the production of phthisis. It cannot, I think, be gainsaid that in some families, quite apart from all other predisposing causes, there is a greater tendency to be affected with phthisis than in other families. I take it for granted that the weight of medical opinion is strongly in favour of this view.

But although phthisis is apt to run in families and to break out again and again in succeeding generations it must be remembered that the disease is not, except in very rare instances, directly passed down from parent to child—phthisis is not directly inherited. Exactly the same statement applies to bovine tuberculosis. It has been shown that calves born of tuberculous cows are only in very exceptional instances affected with tubercle at the time of birth. Thus of 54,427 calves slaughtered in Leipsic during the year 1895 only 107, or 0·18 per cent., were tuberculous; while of 9303 cows 4048, or 43·51 per cent., were tuberculous.[10] It is very rare for a child, say, of a phthisical mother, to be born with tubercle or to manifest tubercle soon after birth. At birth the children of tuberculous parents are usually quite healthy. Any tuberculous affection which they subsequently manifest (tuberculous meningitis in infancy or early childhood, scrofulous glands in the abdomen or neck in later childhood, phthisis in youth and adult life, to give examples) is in the vast majority of cases the result of the introduction of the tubercle bacillus from without and is not the result of the direct passage of the tubercle bacillus or its spores from the parents or ancestors. Baumgarten, indeed, has advanced the view that the tubercle bacillus or its spores may remain latent in the tissues for long periods of time. He has suggested that phthisis manifested in adult life may in this way be the result of direct transmission from a phthisical parent. But, so far as I know, this opinion is entirely theoretical and is not based upon any definite or well-authenticated facts. Further, it seems directly controverted by the fact that if calves born of tuberculous cows are fed on non-tuberculous milk and are kept in good sanitary conditions as regards ventilation, &c., they do not become tuberculous. Persons who come of tuberculous families and who themselves manifest active tubercle (in other words, persons who are popularly said to inherit tubercle) do not inherit tubercle but merely a *tendency to tubercle*. They inherit a certain condition of tissues (of constitution as it is popularly termed) which in many cases seems to be a certain condition of chest conformation or perhaps a certain vulnerability of tissue, as it may be termed, which predisposes them to be more readily affected by the tubercle bacillus than other persons who come of a healthy stock—i.e., who do not inherit a tendency to tubercle.

The exact manner in which heredity predisposes to the production of tubercle has not been definitely determined. Two explanations may be given, viz.:—

1. That in persons who inherit a tendency to phthisis the natural resisting power of the tissues (the vital resistance) is so feeble that the tubercle bacilli or spores when introduced into the respiratory tract are able to take root and to develop—while there is, as I have already pointed out, good reason to suppose that it is not usually able to do, or not likely to do, in the case of ordinarily healthy persons—i.e., persons who do not inherit a tendency to phthisis. This view supposes that the mere implantation, so to speak, of the tubercle bacillus on the unabraded and healthy surface of the respiratory apparatus of a person who inherits a tendency to phthisis and tuberculous disease is sufficient to produce phthisis; in other words, in persons who inherit a strong tendency to phthisis and other forms of tuberculous disease the respiratory mucous membrane, even when unabraded and healthy, is, in consequence of its low resisting power, a suitable nidus for the development and growth of the tubercle bacillus. But though this view may at first sight appear to be plausible, and though it is certainly difficult to disprove, it seems to be contradicted by the facts: (*a*) That it is only in a relatively small proportion of cases of phthisis that the larynx and the intestine become affected. In other words, even in persons who are suffering from phthisis—i.e., in persons in whom the capability to be affected with tubercle is demonstrated by the fact that they are actually suffering from the disease—the constant passage of innumerable tubercle bacilli over the laryngeal and intestinal mucous membranes—parts, be it remembered, which are a frequent and favourite seat of tubercle—does not produce local tuberculous lesions. Now if mere vulnerability of tissue—if mere diminished resisting power of the otherwise healthy tissues with which the tubercle bacillus is brought into contact—is the manner in which heredity predisposes to phthisis, the larynx and intestine, as has been already pointed out, ought in all cases of phthisis, or at all events in a very large proportion of cases, to become tuberculous—i.e., infected with local tubercle. (*b*) That many persons who, judging from their family history, inherit a strong tendency to phthisis and tuberculous disease never themselves actively manifest any tuberculous affection. It is not uncommon, for example, to find several members of a family successively dying from phthisis and several others, exposed to exactly the same conditions, escaping. It may, of course, be said that in the case of the members who escaped the tubercle bacillus was never introduced into the system. But this explanation is, in my opinion, a most unlikely one. Consequently it seems to me that something more than mere hereditary predisposition is *usually* required in order that the tubercle bacillus, after it has been introduced into the system, may take root and develop.

2. A second view, which in my opinion is more probable, supposes that a person who inherits a tendency to phthisis inherits either (*a*) a peculiarity of chest conformation or some peculiarity of the breathing apparatus (which probably consists of defective respiratory capacity, entailing insufficient air change and a tendency to stagnation both of air and of secretions in the terminal air cells and minute bronchi); or (*b*) a peculiar vulnerability of the lung (respiratory) tissue both of which (*a* and *b*) predispose to the production of an unhealthy, diseased, or catarrhal condition of the terminal air cells, the minute bronchi, and it may be in the laryngeal or bronchial mucous membrane, and that these unhealthy conditions of the respiratory tract form a suitable nidus for the development of the tubercle bacillus.

If this view be correct it follows that all conditions which predispose to the production in the lung of those alterations which form a suitable nidus for the development of the tubercle bacillus must be regarded as predisposing causes of phthisis; but without the introduction of the tubercle bacillus such conditions are not of themselves capable of producing phthisis. And since, if this view is correct, an hereditary

[10] Report of Royal Commission, 1898, p. 345.

tendency to phthisis chiefly consists in an hereditary tendency to favour the production of those conditions of the respiratory tract (lung, &c.) which form a suitable nidus for the lodgment, development, and growth of the tubercle bacillus, persons who inherit a tendency to phthisis should take special care to guard themselves against bronchial colds, the inhalation of dust particles, against everything, in short, which is liable to produce an unhealthy or catarrhal condition of the minute bronchi and air cells; for in them such abnormal conditions of the respiratory tract are not only (because of their inherited peculiarities, chest conformation, &c.) more easily established, but if produced are (in consequence of the fact that their vital resistance against tubercle is feeble) more dangerous (more likely to be followed by the production of phthisis) than in persons who do not inherit a tendency to phthisis.

It must, however, be admitted that this explanation is not altogether satisfactory, for it must be allowed that the mere presence of an unhealthy condition of the respiratory tract (a catarrhal condition of the air cells or minute bronchi) does not necessarily of itself (*per se*) always afford a suitable nidus for the development and growth of the tubercle bacillus. Children, as has already been pointed out, are comparatively rarely affected with primary phthisis; but catarrhal conditions in the lung and minute bronchi are very common in children. Hence, in order to explain the rarity of primary phthisis in the child as compared with its frequency in the adult, it must be granted that, in addition to a catarrhal condition of the minute bronchi or air cells of the lung, a peculiar susceptibility of the lung tissue to be affected by the tubercle bacillus (in other words, a diminished vital resistance, which is much more frequently present in the lung of the adult than of the child) is necessary.

But, further, it is, I think, not unreasonable to suppose—though this is by no means admitted by many authorities—that in those persons who inherit a strong tendency to phthisis the tubercle bacillus, after it has been introduced into the respiratory passages and after it has (in consequence of the presence of a suitable nidus to the production of which the hereditary tendency to the disease predisposes) taken root and begun to develop, does luxuriate and grow more actively and energetically than it does in the lung tissues of persons who do not inherit a tendency to phthisis. In other words, it is reasonable, I think, to suppose that in persons who inherit a tendency to phthisis, the vital resistance of the tissues against tubercle both of the lung tissues and of the tissues of the body as a whole, is less active and potent than in persons who do not inherit such a tendency.

We may say, then, that for the production of phthisis (I am speaking of *primary* tuberculous disease of the lungs) three factors are *usually* necessary, viz.: 1. The introduction (either directly into some part of the respiratory passages or indirectly into the lung tissues through, for example, the gastro-intestinal tract) of the tubercle bacillus or its spores. This is essential. 2. The presence in the respiratory tract of a suitable nidus for the development and growth of the tubercle bacillus or its spores. It is probable, I think, that this is usually necessary, unless the dose of the poison be very large. 3. Defective vital resistance, in other words inability of the tissues, more especially of the respiratory tissues with which the tubercle bacillus and its spores first come in contact, to resist the development of the tubercle bacillus or its spores, after they have been implanted in the suitable nidus (usually an abraded, unhealthy, or catarrhal condition of some part of the respiratory tract). The resisting power of the tissues against the invasion of the tubercle bacillus—the vital resistance—varies, as we have seen, in different individuals (being probably greater, for example, in persons who do not than in others who do inherit a strong tendency to phthisis) and in the same individual at different times, in accordance with age, condition of health, &c.

Now if these propositions are well founded the main points to which attention must be directed in order to prevent the development of phthisis in the individual are as follows:—1. To prevent the introduction of the tubercle bacillus or its spores into the body and, in the case of phthisis especially, into the respiratory tract. 2. To prevent the production or development in the respiratory tract of the local conditions which form a suitable nidus for the development of the tubercle bacillus (unhealthy condition, abraded surface, retention of secretions, &c.). 3. To raise the resisting power of the tissues as a whole, and of the respiratory tissues in particular, so that they may be able to destroy and to evacuate the tubercle bacillus after it has been introduced and lodged in the suitable nidus (an abraded or unhealthy part of the respiratory tract).

ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA.

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IN an article on Differentiation in Diabetes, published in THE LANCET in 1900,[1] I referred to the classification of diabetes into the "alimentary" and "composite" types. In the "alimentary" type the error consists purely and simply of the mal-assimilation of the food carbohydrate, and, as a consequence, the elimination of dextrose in the urine. In this elimination of sugar we have the full extent of what is wrong in the urine. In the "composite" type, on the other hand, an additional faulty condition of urine exists. Besides the presence of dextrose there is also a group of products met with derived from a retrograde tissue metamorphosis. The term "grave" has been applied to this form of diabetes, but, as I pointed out in the article to which I have referred, this term, from the sinister idea which it conveys, is not free from objection. In the term "composite," however, we have no such sinister idea conveyed and it at the same time faithfully represents the condition existing, for we have to deal not only with the issue of mal-assimilation of food carbohydrate but likewise with a conjoined occurrence of an abnormal tissue metabolism.

In alimentary diabetes the fault consists of the carbohydrate of our food not being properly assimilated and thence being permitted to reach the general circulation as sugar which subsequently runs off as waste material with the urine carrying with it unutilised energy. The ill-effects arising from this condition fall under two heads. There is in the first place the effect due to the loss of food material in an unused state; and in the next there is the injury inflicted by the pernicious action of the sugar in abnormal transit through the system. Such sugar virtually acts as a toxic agent and in proportion to the extent to which it exists, of which the amount escaping with the urine is a measure, so, looked at generally, is the extent of harm produced. Purely from this abnormal presence of sugar in the system a great many definite ills take origin. They stand distinctly attributable to the effect of the sugar, and are escaped from, or relieved, by the adoption of the appropriate treatment for keeping the system free from abnormality in relation to the presence of sugar. Besides the production of such specific troubles as boils and carbuncles, gangrene of the toes, perforating ulcer, phthisis, neuritis, kidney degeneration, cataract, and some others, the toxic influence of the sugar tells obnoxiously upon nutrition and saps the general power; and to be able, as can be done in the "alimentary" form of diabetes, to check the passage of sugar through the system and to avert these results deserves to be regarded as a matter of no small importance.

Building-up and breaking-down operations are constantly going on in living matter and it is to a defect on the side of the former that "alimentary" diabetes is due. Constructive metabolism is at fault and the carbohydrate of food, instead of being placed in a proper position by protoplasmic agency for proceeding to utilisation, remains in the form of free sugar which, reaching the general circulation and thence the kidney, flows off with the urine in the same manner as anything else of a diffusible nature. Modern views differ from those entertained a short time back regarding the mode of utilisation of carbohydrate matter. Instead of, as was formerly thought, being disposed of by oxidation in a non-living state it is now considered that it is as a constituent of living matter that it undergoes oxidation. The seat of the chemistry of life is within living protoplasm and the non-living principles become incorporated into living matter preparatory to

[1] THE LANCET, June 16th (p. 1708), 23rd (p. 1787), and 30th (p. 1863), 1900.

utilisation. Food material is in the first instance broken up into simple principles and these by the agency of the living matter belonging to the alimentary canal with which they come in contact become appropriated and built up into living protoplasm which yields the source from which the tissues derive their nutrient material. Entering thus in the form of proteid into the system our food carbohydrate is protected through the largeness of the molecule within which it is contained from escaping into the urine during its transit through the kidney as happens when sugar in a free form is allowed to reach the general circulation.

This view of the action of protoplasm in appropriating carbohydrate by synthesising it into proteid was the outcome of the recognition in the course of my investigations that carbohydrate was susceptible of being cleaved off from proteid by chemical means. The subject was fully entered into in my "Physiology of the Carbohydrates," published in 1894. We were previously faced with the difficulty of seeing how sugar reached its seat of utilisation in the tissues without its transit through the circulation being revealed by passage into the urine. With carbohydrate incorporated into proteid and conveyed in this form the difficulty immediately disappears.

I have entered into these particulars regarding "alimentary" diabetes and the metabolism of carbohydrate as a preparatory step to the consideration of the subject to be specially dealt with. Faulty metabolism is at the foundation of the whole matter. In "alimentary" diabetes the fault lies with the upward line of metabolism, or that which is concerned in placing food carbohydrate in a right position for passing to utilisation. In the "composite" form of diabetes wrongness of descending metabolism occurs in addition to the wrongness of the other, and the wrongness of descent is attended with the associated production of sugar and of the acetone series of products. With such a state of things existing a formidable condition is presented, inasmuch as waste is occurring in all directions. There is the loss of sugar from unassimilated carbohydrate, and there is also the loss of sugar and of the above-named associated products derived from the wrong tissue breaking down. All are carrying with them in their exit from the body unutilised energy.

I have said that in the abnormal destructive metabolism or tissue disintegration occurring in diabetes there is a liberation of sugar on the one hand, and of the acetone series of products on the other. The two processes ordinarily occur concurrently but they nevertheless must be regarded as distinct. It has long been noticed that the elimination of nitrogen runs with that of sugar and that they bear a definite relation to each other. In the starving animal rendered diabetic by ablation of the pancreas or by the agency of phloridzin, after time has been allowed for all the free carbohydrate of the body to disappear, the eliminated sugar is derived solely from tissue disintegration. In this tissue disintegration the nitrogen of the proteid is also set free and appears in the urine as ammonia or as urea. As proteid contains a definite amount of nitrogen the quantity of nitrogen eliminated gives a measure of the proteid destruction occurring.

Starting upon these premises the relation which the eliminated sugar bears to the eliminated nitrogen supplies the means of calculating the amount of sugar issuing from the disintegrated proteid. Close attention has been given to the matter and a large amount of work performed by different experimentalists with a fairly accordant result, from which it is estimated that as much as nearly 60 per cent. of the disintegrated proteid may come off as sugar. That such an amount of sugar can be derived from the proteid molecule constitutes a point possessing a most significant meaning. It gives support to the view that has been referred to bearing on the passage of food carbohydrate, by the synthesising action of protoplasm, into proteid and at the same time suggests that this mode of application of carbohydrate is carried out upon a scale that gives it a position of great importance. Looked at from a further point of view, the extensive liberation of sugar from proteid that is susceptible of being induced gives us an idea of the vast store of locked-up carbohydrate that exists in the system in a suitable state for application, under normal conditions of metabolism, to the production of energy.

The other result of the abnormal katabolism, or downward metabolism, that may occur in connexion with diabetes is the generation of the acetone series of products consisting of β-oxybutyric acid, diacetic or aceto-acetic acid, and acetone. These products form a chain of principles representing successive steps of degradation by oxidation. Beginning with β-oxybutyric acid, the formula for which is $CH_3.CH(OH).CH_2.COOH$, oxidation of the CH(OH) group into CO gives diacetic acid, with the formula $CH_3.CO.CH_2.COOH$, which is changed into acetone, $CH_3.CO.CH_3$, by substituting CH_3 for the two end groups $CH_2.COOH$. In these bodies, as with the carbohydrates, we have non-nitrogenous principles to deal with, but nothing of the nature of alliance between them exists. Their kindred connexion is with the fatty series. With the exception of acetone, of which a slight amount may be present, they are foreign to normal urine. The abnormality, therefore, with regard to these bodies is in the presence of the oxybutyric and diacetic acids. It has been shown that they represent successive stages of degradation by oxidation and their order of appearance in the urine is from the lowest to the highest form. As mentioned, acetone may be discoverable when no deviation from the normal state is apparent. If diacetic acid is present acetone is also so, but not necessarily oxybutyric acid. When oxybutyric acid, however, is present the presence of the other two may be looked for as a consecutive event. These principles may be made to appear in the urine of healthy subjects as a result of their ingestion in sufficient quantity, and the same order, it is stated, has been observed to occur. For instance, after the ingestion of diacetic acid acetone may be found, and after the ingestion of oxybutyric acid diacetic acid and acetone and even oxybutyric acid itself if the quantity taken has exceeded the limits of the capacity of the system to dispose of it.

For the recognition of acetone in urine Legal's nitroprusside test is the most suitable for clinical purposes. Into a few cubic centimetres of urine a small fragment of sodium nitroprusside is dropped and a little caustic soda is added. A cherry-red colour is produced which soon fades. If now an excess of acetic acid be added a carmine-red becomes developed should acetone be present.

Diacetic acid is recognised by the port-wine colour which it gives with a solution of ferric chloride. On adding ferric chloride solution (B.P.) to the urine a white precipitate of ferric phosphate is first thrown down. This may be removed by filtration and the filtrate then further treated with more ferric chloride. For expedition, however, it is usual to go on adding ferric chloride till the precipitate of ferric phosphate is dissolved when the diacetic acid reaction is perceptible if any diacetic acid is present. It is necessary to bear in mind that somewhat similar colour reactions are given by the urine of persons who are taking antipyrin or salicylic acid, or the products from which salicylic acid may be derived in the system. The salicylic reaction has a pronounced violet tone which is scarcely liable to be mistaken by the practised eye for the reaction of diacetic acid. There is also a purple tone about the colour resulting from the effects of antipyrin. If doubt should exist appeal may be made to the acetone test which will give the conjoint reaction where diacetic acid is present and no reaction where the colour reaction with the ferric chloride is not due to diacetic acid.

If no reaction is given with the ferric chloride test oxybutyric acid need not be looked for. As an indicator of the presence of oxybutyric acid the polarimeter is employed and its result is compared with the result given by cupric oxide reduction. Oxybutyric acid possessing levo-rotatory power neutralises the dextro-rotatory effect of the dextrose and throws out, in proportion to the amount present, the concord between the figures derived from the two methods of estimation. In the absence of oxybutyric acid the accord between the polarimetric and cupric oxide reduction estimations is often very close and should never deviate to any significant extent. It is true, as shown by the examination of urines giving no ferric chloride reaction and therefore assumedly not containing oxybutyric acid, that a certain amount of difference, attributable to the incidental presence of some other levo-rotatory body, may be found, but it is not likely to reach a point that can be considered to be worth attention. Levulosuria and pentosuria are conditions so rarely come across that they are not here taken into account. Hence for clinical purposes the difference between cupric oxide reducing power and optical activity may be read off not only as an indicator of the presence but also as giving a representation of the amount of oxybutyric acid present. This may be expressed either in terms of dextrose by simply subtracting the lesser dextrose value obtained by the optical method from the greater obtained from the reduction method, or in

terms of actual oxybutyric acid which has an optical activity of 24·1° as against that of dextrose 52·5, by multiplying the above difference by 2·2.[2]

In connexion with the very large quantity of oxybutyric acid that has been stated by some authorities to have been found by the above-described method of estimation, Magnus-Levy[3] in an elaborate dissertation on oxybutyric acid and its relation to diabetic coma, has raised the question of the validity of the process. He brings forward work conducted upon other lines and states that the quantity of oxybutyric acid that can be extracted by ether from the acidified urine comes out much less than that deducible from the difference between optical activity and cupric oxide reducing power, but agrees fairly with the amount given by calculation founded on determining the saturating capacity of the bases and noting the deficiency in the mineral acids present to effect saturation, the deficiency being reckoned as due to oxybutyric acid. Many elements of consideration, with risk of error, are here involved and the results must be looked upon as blended with uncertainty. He points out that the levo-rotatory effect of the urine is increased by an excess of the lead acetate used in the preparation for examination. This is easily shown by observation to occur, even to a considerable extent, when much lead acetate is present and unless guarded against may give rise to considerable error. Possibly some of the earlier results recorded may have been vitiated in this way and too high figures given, but the fallacy may be escaped from with proper procedure as regards the amount of lead acetate used, and frequently the urine is sufficiently devoid of colour for filtration alone to suffice, in which case there can be nothing to interfere with correctness of result.

Should it be thought desirable the dextrose may be fermented off so as to leave the oxybutyric acid with its levo-rotatory power freed from any neutralising influence when a simple polarimetric reading suffices to give the information required. The process, however, is lengthy and tedious and, I cannot help thinking, involves the risk of a certain amount of loss of the oxybutyric acid present. I am of opinion that with recourse to the cupric oxide reduction and optical activity method we need not go further and that information is supplied by it upon which reliance may be placed.

We come now to the question of harm inflicted by this chain of principles. None of them, as shown by experiment, is capable *per se* of exerting any pronounced or immediate toxic effect and to none of them can diabetic coma be considered directly attributable. Acetone being volatile has a channel of escape by the lungs in addition to that afforded by the kidney. As is well known in the bad form of diabetes it is strongly perceptible in the breath.

(To be continued.)

THE SUBCUTANEOUS INJECTION OF CINNAMATE OF SODIUM: A NEW DEPARTURE IN THERAPEUTICS.

BY LOVELL DRAGE, M.D. OXON.

With a Note on the Preparation of Cinnamate of Sodium Solutions suitable for Hypodermic Injections

BY GILBERT T. MORGAN, D.SC. LOND., F.I.C.

AFTER many years' wandering in search of an explanation of the intravascular clotting which is observed in the human body in connexion with a variety of conditions I have come to the conclusion that a partial explanation only can be found on strictly chemical and physical grounds. There has always appeared at the moment when a complete "explanation" has seemed possible a factor of unknown quantity. The same difficulty appears in all phenomena when a vital process is involved. We are, indeed, very far off an accurate conception of the meaning of the term *life* and one is forced to the conclusion that when a process is connected intimately with living cells there is a limit to human comprehension.

Speculation leading to a working hypothesis seems at the present moment the only means within our reach of arriving at solutions of many of the phenomena, if not all, which are connected with disease. Having arrived at a working hypothesis as to the causes of the intravascular clotting which occurs during the lying-in period of women I have been led into a speculation as to what is the constituent of the blood which is the cause of the *impasse* at which I had arrived. What is the constituent which shows pre-eminently the phenomena associated with living cells? Surely, it is the white blood cell.

Accepting as I do the conclusions to which Dr. J. G. Adami arrived in his article on Inflammation in Dr. Clifford Allbutt's "System of Medicine," it is no matter of surprise that I have been assiduously looking out for weary years for a gleam of light which would help me to understand the reason why certain drugs have an influence upon such diseases as cancer and tuberculosis. A recent article in the *Journal of Pathology* on the leucocytic changes following injections of cinnamate of sodium has given me a clue. Inflammation, in the words of Dr. Adami, is the series of changes constituting the local manifestation of the attempt at repair of actual or referred injury to a part—or, briefly, as the local attempt at repair of actual or referred injury.

The injection into veins of cinnamate of sodium has now been shown by Dr. H. Batty Shaw—as it had been previously by Richter and Spiro—to produce a general leucocytosis, not by depriving the blood of a certain amount of liquid, but by stimulating the simpler lymphocytes to transformation into polymorphonuclear cells and intermediate forms. The oil of cinnamon was one of the drugs the action of which I was previously not in a position to understand, and I naturally inclined to a trial of the cinnamate for the same conditions of disease as those for which I had previously exhibited the oil. A drug capable of producing leucocytosis, such as the cinnamate of sodium, appeared to me to be the very one which would be likely to be of avail in the repair of tissue damaged by inflammatory, tuberculous or cancerous processes, because it is the leucocyte of one kind or another which is at once the agent of destruction and repair.

It is the purpose of this paper to place before my professional brethren (having briefly indicated the foundation of my belief in the efficacy of my method of treatment) the result of my observations of the action of the cinnamate of sodium in various conditions of disease. For purposes of administration I use a 10 per cent. solution of cinnamate of sodium in glycerine. This was prepared for me by Dr. Morgan of the Royal College of Science, South Kensington, who has very kindly promised to write a note dealing with the chemistry of the subject.

CASE 1.—The first case which I selected for trial was that of a man, over 60 years of age, who was much emaciated and who was apparently dying from tuberculosis of the lungs. His weight was only seven stones and 10 pounds at the time of the commencement of treatment; he had lost two pounds at the end of the next fortnight. After this he ceased to lose weight. The expectoration was excessive in amount, but was reduced after one injection of 15 minims of the solution into the skin close to the edge of the scapula, and is now, a month later, very small in amount.

CASE 2.—The next case treated was that of a man, over 60 years of age, who was going downhill very rapidly. He is, I believe, suffering from cancer of the pancreas; at all events he has had the symptoms usually noted when this organ is so affected. At the time of the first injection into the abdominal walls vomiting was incessant and he suffered great pain. He was very much emaciated. He has had two injections of 30 minims each twice a week. Vomiting has been completely controlled, the pain is very much alleviated, and the delirium, which was beginning to be troublesome, is now, after three weeks' treatment, absent.

CASE 3.—The next case was that of a man about 30 years of age, suffering from chronic inflammatory mischief connected with the middle ear. This man came under my care some months ago with a history of inflammatory trouble connected with both ears, following upon influenza. He had been treated by throat and ear specialists. The tympanum on one side was perforated and he used this ear alone with the aid of a trumpet. He was completely deaf on the other side and suffered acute pain; having reduced the pain with leeches I persuaded him to consult Mr. Cumberbatch who gave a very gloomy report of the condition of the ear and suggested continuous blistering and the use of a spray for the nose. The patient did not improve and I persuaded him

[2] Magnus-Levy: Archiv für experimentelle Pathologie und Pharmakologie, Band xlv., 1901.

[3] Ibid., Band xlii., 1899.

to allow me to inject 30 minims of the cinnamate solution behind the mastoid. In a fortnight's time he returned for a second injection in high spirits; the improvement in hearing was very marked and I now look forward to a complete cure.

I have now under treatment one early case of laryngitis, almost certainly tuberculous, in which the evening temperature was at once lowered after an injection of 30 minims and there was a diminution in the amount of expectoration.

I am quite aware that these preliminary and unfinished cases do not furnish absolute evidence as to ultimate success, but the results have been so extremely striking to me that I have felt it my duty to give my professional brethren the opportunity of extending observations upon the value of the drug. There are many points connected with the use of the drug which require time and the efforts of a large number of observers. I have not injected more than 30 minims of the 10 per cent. solution, but it is probable that a much larger dose can be used safely. I have not at present done so because the dose with which I have worked gives good results and causes no unpleasant symptoms to the patient. It is probable that there are many other chemical substances which may be used to produce similar effects. I feel some degree of assurance that the lines upon which such diseases as cancer and tuberculosis can be treated successfully are those based upon the principle of administering drugs which by their action on the white blood cells will assist repair in the cells damaged. At any rate I am confident that I am calling the attention of the medical profession to a valuable therapeutical method.

NOTE BY DR. GILBERT T. MORGAN.

The therapeutic application of sodium cinnamate described in the preceding communication was rendered practicable by the discovery that this salt dissolves in glycerine to form a clear solution which can be easily manipulated in the hypodermic syringe. This observation was the outcome of my own experiments on the solubility of the substance in various media, an investigation which was undertaken at Dr. Lovell Drage's suggestion.

This preparation is more reliable than the emulsions already employed in physiological research, inasmuch as these mixtures alter in composition by subsidence in a comparatively short space of time, whereas the glycerine solution remains unchanged for an indefinite period. The glycerine solution is prepared by heating dry powdered sodium cinnamate with the pure solvent at a temperature of 180° C. (about 360° F.), and in this way from 10 to 11 per cent. solutions are readily obtained. It is important that the salt should be finely divided in order that the dissolution may proceed as quickly as possible because prolonged digestion of the solvent at the temperature indicated leads to the formation of acrolein (acraldehyde), a substance having very irritating properties. More concentrated glycerine solutions may be produced but these exist at the ordinary temperature in a state of supersaturation and the salt gradually crystallises out, the separation being accelerated by agitation. The high temperature required for the preparation has the useful effect of ensuring the sterilisation of the solution.

Further experiments showed that sodium cinnamate is almost insoluble in chloroform, acetone, ether, absolute alcohol, and other low boiling-point organic solvents. Boiling water dissolves a large amount of the salt (about 25 per cent.) but the greater portion of the substance crystallises out on cooling; a sediment is slowly formed in 10 or 12 per cent. solutions, the supernatant liquid being distinctly alkaline to litmus paper.

Ethyl acetate, ethyl benzoate, and ethyl cinnamate dissolve appreciable quantities of the salt, but the solutions are too dilute for practical purposes. Hot oleic acid takes up a large amount of the cinnamate, but the greater part of the salt separates out again on cooling to form with the solvent a viscid emulsion.

It is, indeed, a fortunate circumstance that glycerine is the most suitable solvent for the cinnamate, because this liquid has other properties which combine to make it a particularly useful medium for the subcutaneous introduction of the drug: firstly, it is very inert; and, secondly, it is miscible with water or aqueous solutions. A gradual addition of water to the glycerine solution would take place in the tissues into which the liquid is injected, bringing the salt into intimate contact with the parts affected.

The further study of other preparations of cinnamic acid and its derivatives is in progress.

THE HETOL TREATMENT OF TUBERCULOSIS.

BY DR. O. AMREIN.

IN 1888 Professor Landerer of Stuttgart proposed a new treatment of tuberculosis and 10 years afterwards he published in a large volume[1] his technical and physiological observations and the results which he obtained. Landerer holds the opinion that the tuberculous affections have little tendency to heal owing to the want of blood-vessels, which is very unfavourable to the process of cicatrisation. Therefore he tries to provoke an artificial "hyperæmia" in the neighbourhood of the tubercle nodules by injecting "cinnamylic acid"[2] into the circulatory system, and he observes an inflammation and accumulation of leucocytes round the tuberculous foci (state of leucocytosis). The next stage is emigration of multinuclear leucocytes into the alveolar septa and organisation of blood-vessels (state of organisation). In the next place new vessels and fibrous tissue grow through the tubercle nodules (state of vascularisation); and, finally, this new fibrous tissue becomes solid and the result is a cicatrice (state of cicatrisation and retraction). He thinks that this healing process is similar to the natural one, only quicker and more solid. Instead of the cinnamylic acid Landerer afterwards used the cinnamylic soda salt and called it "hetol." Further publications (Krämer) show that the principal action of the hetol treatment is the leucocytosis (therefore everything causing a leucocytosis would be a help in combating tuberculous diseases). This method of Landerer has been tried by a great many physicians and notwithstanding great opposition at the time of its introduction it has become a very well-known one in Germany and Switzerland. But up to the present time much discussion, favourable and unfavourable, has occurred. As against the good results published by Landerer himself and other authors (Heusser, Krämer, &c.) is to be set the fact that other physicians did not find the expected effect. I mention here especially the publication by Dr. H. Staub (at the sanatorium Wald-Zürich) in No. 12, 1901, of the *Correspondenzblatt für Schweizerärzte* and the discussion between him and Dr. Heusser of Davos in the same medical paper.

As the observed results of many cases can alone enable medical men to decide as to the efficacy of the treatment I here bring forward my results obtained by hetol treatment in the period 1899–1901. I learned the method (intravenous injections) at the Sanatorium Wald in 1899 and I have used it in the manner described by Dr. Staub. In the first place, I may say that I have never observed any harmful influence either on the local state of the lungs or on the general state of health of the patient. There was never any inflammation at the place of injection. In one case, however (Case 13), every injection caused pruritus cutaneus on the chest after from three to four hours, lasting about half an hour, accompanied by fever. I always began with one milligramme (0·001 gramme). I injected the hetol every third day and increased the dose after two injections of a similar dose by one milligramme until 10 milligrammes had been reached, then by two and a half milligrammes until from 20 to 25 milligrammes (maximal doses) had been reached, using a solution of 1 per cent. up to 10 milligrammes and a solution of 5 per cent. from 10 milligrammes to from 20 to 25 milligrammes. A stasis of blood in the veins of the arm was caused by an elastic ligature, and after disinfection by spiritus saponatus and sublimate the injection was made into the vena mediana cubiti. The temperature was taken at 7 A.M., 9 A.M., and at 12 noon, and at 2.30 P.M., 4 P.M., 6 P.M., and 9 P.M. in the mouth (10 minutes), and the above-mentioned dose was increased only after the temperature did not exceed 37·3° C. During menstruation the injections were not stopped on female patients.

The accompanying table, constructed after the example of Dr. Staub, gives all the observed effects of the treatment and also all details—the state of the disease and its complications, the number of days of general treatment, the number and dose of the special injections, the temperatures

[1] Die Behandlung der Tuberculose mit Zimmtsaure.

[2] A constituent part of "Peruvian balsam" which was recommended for the treatment of tuberculosis a long time ago.

TABLE SETTING FORTH ALL THE OBSERVED EFFECTS OF THE HETOL TREATMENT OF TUBERCULOSIS IN 13 CASES.

Case	Sex.	Years of age.	Duration of illness.	State of the disease.*	Complications.	Days of general treatment.	Number of injections.	Maximum dose in milligrammes.	Fever.		Bacilli.		Difference of weight in kilogrammes.	Local effect.	Success.	Further information.
									Before the injection.	After cure.	Before the injection.	After cure.				
1	M.	24	2 years.	I.	Otitis media chronica.	147	24	25	–	–	–	–	+2	Improved.	Positive.	The patient has been working at his business for two years.
2	M.	21	1 year.	I.	—	142	28	25	–	–	–	–	+1·2	,,	,,	Has been working for one and a half years.
3	F.	22	2 years.	III.	—	141	30	20	–	+	+	+	–1	Worse.	Negative.	—
4	M.	22	9 months.	II.	—	141	46	25	–	+	+	+	+4·5	Improved.	Positive.	—
5	F.	21	6 ,,	II.	Tuberculous laryngitis.	159	30	20	+	+	+	+	–5	Worse.	Negative.	—
6	M.	17	6 ,,	II.	—	128	43	25	–	–	–	–	–4·5	,,	,,	—
7	M.	21	3 ,,	II.	—	120	26	25	–	–	–	–	–1	Stationary.	,,	Died in 1901.
8	M.	36	7 years.	II.	—	60	32	25	+	–	+	+	+2	,,	,,	—
9	F.	28	2 ,,	II.	—	84	28	20	+	–	+	+	+2	,,	,,	—
10	M.	35	7 ,,	II.	—	326	47	25	–	–	+	+	+0·5	,,	,,	—
11	M.	26	6 months.	I.	Acute gonorrhœa.	146	30	25	–	–	+	–	+1·5	Improved.	Positive.	Has been working for a year.
12	M.	26	7 years.	II.	—	383	22	25	–	–	+	+	–1	Stationary.	Negative.	—
13	M.	30	2 ,,	II.	Caries of the ninth right rib.	141	2	1	After each injection fever and pruritus cutaneus.							

* I follow the very well known system of States I., II., and III. by Turban.

before and after the "cure," the bacilli before and after the "cure," the weight gain or loss, the local success, &c.

It will be seen that real positive success was obtained in our cases out of the 13 (Cases 1, 2, 4, and 11); but as all patients have been undergoing a cure the whole time in the high altitudes (nine of them at Davos-Claendal and the others at Arosa) it is quite impossible to say whether these results are caused by the injections or not, and whether they could not have been obtained by the climatological and dietetic treatment alone. I must say that they are not at all different from some cases of mine of similar character in which the patients were not injected.

Of great interest are Cases 3 and 5. Both of these patients were young women, rather stationary cases, who had been at Davos already for one and a half years and nine months respectively without improving. Certainly if after the injection cure they had shown an improvement it must have been caused by these injections. But neither showed any quicker or greater improvement.

One patient (Case 9) lost the fever (at the beginning 38·2° C.) after some weeks, but was lying in bed all that time. In this case the lessening of the fever seemed to me to be brought about more quickly than I observe generally. One patient (Case 3) got fever during the injection cure, but after an acute and bad bronchitis, and did not lose it again. With regard to the eight patients with bacilli in the sputum at the beginning one lost them after some weeks and the others kept them. No patients with "closed tuberculosis" showed bacilli during the injection cure. The patient in Case 13 got a temperature of 38·9 C. after the injection of one milligramme, and after an interval of a week again after the same dose, with much expectoration and pruritus cutaneus on the chest (above mentioned), so that the injections were not continued. It was a bad case with cavities and caries of the ninth right rib (this was successfully operated on later). Cases 10, 12, 13, and 4 always showed an increased expectoration on the day after the injections. I have never observed any hæmorrhage.[2]

The only positive success that I could remark, therefore, was the lessening of the fever in Case 9. Certainly this one case cannot tell us if we must say: "*Post hoc ergo propter hoc*," but as I mentioned the lessening of the high temperature occurred more quickly than usual. (I may observe that Dr. Lips of the Sanatorium Wehrawald wrote to me in a letter dated Oct. 4th, 1901, about a patient whom he was sending to Arosa, that by the hetol treatment the temperature, from being irregular and high, became constant and normal.)

Besides that my table shows about the same results as the above-mentioned paper by Dr. Staub: no harmful influence was apparent; and, on the other hand, I never could see any positively good effect which I could not explain myself by the climatological (altitude) and hygienic and dietetic treatment.

Arosa, Switzerland.

[2] About the leucocytosis, which should be a very great one after the injections (Landerer), I made some experiments in 1900 at Davos Claendal. On two patients (Case 8 in the table and a physician, whom I treated with hetol and who was already in a state of relative healing (not mentioned in the table) I found the greatest leucocytosis four hours after the injections (using the apparatus by Thoma-Zeiss) and greater when a meal was taken between the injection and the blood-analysis, but never exceeding more than 11,000 leucocytes in one cubic millimetre. Experiments on myself showed nearly the same great leucocytosis after a big meal. I never saw an increasing of the leucocytes to the double number or more, as Landerer is said to have seen.

AN EXPLANATION OF THE CAUSE OF INEQUALITY OF PUPILS IN CASES OF THORACIC ANEURYSM.

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THE RECEIVED EXPLANATION OF ANISOCORIA IN THORACIC ANEURYSM IS UNSATISFACTORY.

HITHERTO the accepted explanation of the inequality of the pupils which so frequently occurs in cases of aneurysm of the thoracic aorta has supposed that there is some interference with the normal activity of the sympathetic nerve. But for long it has been noticed that there might be inequality of the pupils, although there was no evidence of implication of that portion of the nerve trunk containing

dilator fibres for the pupil. It was therefore supposed that some influence was exerted through the nerve filaments of the sympathetic which supplied the sac wall of the aneurysm. On examining cases of thoracic aneurysm in which the phenomenon was present it became obvious that the received explanation was unsatisfactory, both on anatomical and physiological grounds. The original theory seemed to be definitely disproved by such a case as that of Case 4 (*iv/va*), in which, though the pupils were unequal, the aneurysms sprang from the first part of the arch of the aorta, and did not come into relationship with that part of the sympathetic trunk which contained the fibres that supply the iris. The modification of the theory which supposes influences to be transmitted through the sympathetic filaments which supply the sac wall accepts the premiss that such filaments exist. In the majority of cases of aneurysm that are of considerable size the sac wall consists, to a very large extent, not of the original arterial coats but of the surrounding structures compressed or eroded. In such cases a very great part of the sac wall must be without any special sympathetic nervous supply; it follows therefore that the premiss upon which this theory is based may possibly be unsound.

The objections on physiological grounds to this nervous theory are even more weighty. As far back as 1858 Ogle noticed that though in most cases in which the pupils were unequal the left was the smaller, yet this was not the invariable rule. He put forward the view that sometimes stimulation and sometimes paralysis of the sympathetic was the mechanism by which this observation could be explained. In some cases, it is true, it is possible to conceive that such conditions may be present, but in most so much hypothesis incapable of proof is necessary that the explanation ceases to afford satisfaction. At the best the theory involves the proposition that though the mechanism in two cases is similar, yet the effect of its operation may be one of two results diametrically opposed.

The objection, however, that is most fatal to this theory is based upon the fact that though inequality of the pupils is quite common in thoracic aneurysm, yet other signs of interference with the sympathetic system are of extreme rarity. Claude Bernard in 1852 investigated experimentally the action of the sympathetic not only with regard to its influence over the iris but also with regard to its other functions. Since then many cases have been recorded in which the trunk of the sympathetic has been affected by external influences and in these cases not only are there pupillary changes but also vaso-motor and other phenomena. Thus in a case which was admitted to the London Hospital in 1901 under the care of Mr. P. Furnivall the implication of the left sympathetic in a new growth was associated not only with diminution in the size of the left pupil but also with a complete loss of power to dilate on shading and a partial loss on the instillation of cocaine; in addition there were some enophthalmos and pseudoptosis on the left side with anidrosis as tested by pilocarpine on the left side of the face and neck. In those cases in which inequality of pupils occurred in association with aneurysm of the thoracic aorta no instance was found in which there was any interference whatever with the normal pupillary reflexes, nor was there any case in which there was enophthalmos, exophthalmos, pseudoptosis, or retraction of the lids, nor any in which there was recognisable abnormality of the vaso-motor or sweat gland systems. Sir William T. Gairdner in Allbutt's "System of Medicine" in an article upon aneurysm is apparently so convinced that inequality of the pupils associated with thoracic aneurysm is in all cases due to implication of the sympathetic that he writes: "There need be little hesitation in affirming that the Argyll-Robertson pupil will be found as characteristic of the cases depending on thoracic or aneurysmal tumours as it is of the other forms of spinal myosis." If the inequality of the pupils were due in all cases to implication of the sympathetic Sir W. T. Gairdner's statement would be correct; in a long series of cases, however, no example has been found in which the Argyll-Robertson pupil was present or any of the other phenomena usually associated with interference with the sympathetic. It is also a matter of common knowledge that myosis of nervous origin is usually extremely well marked, whereas the inequality of the pupils associated with thoracic aneurysm is seldom great and often only demonstrable when the pupils are moderately dilated in a dim light.

In view of these difficulties it seemed necessary to seek some other possible cause for the inequality of the pupils and the possibility of vascular conditions affecting their size was submitted to investigation.

VASCULAR CONDITIONS MAY INFLUENCE THE SIZE OF THE PUPILS.

It is well known that in acute inflammation of the iris the pupil is small; this is in all probability due to vascular turgescence, though conceivably it might be the result of nervous influence. In cases, too, in which the general blood-pressure is markedly increased—for instance, in chronic interstitial nephritis—it is extremely common to find small pupils. On the other hand, most states in which the blood-pressure is low are characterised by large pupils; examples are to be found in cases of typhoid fever or chlorosis. Syncope, also, which, as Dr. Leonard Hill has shown, is associated with a determination of the blood into the portal area, is characterised by enlargement of the pupils. These examples are sufficient to suggest that probably the size of the pupils is not always entirely controlled by nervous influences. Vascular conditions may also partly, if not wholly, explain the large pupil of chronic glaucoma or the contracted pupil found associated with lowering of the tension of the aqueous humour in cases of punctured wound of the cornea.

In considering the effect of vascular conditions upon the size of the pupils it at once occurs that mere vascular turgescence is insufficient to produce myosis; if this were the case the pupils should be minute in all cases of venous engorgement—for instance, in heart failure. Often, however, in such cases, though the veins of the head and neck are distended, the pupils are large. It does not seem to be true that the mere filling of the iris with blood will lead to narrowing of the pupil. On the other hand, there is some definite relationship between the arterial blood-pressure and the size of the pupil. This relationship is probably to be explained by the anatomical peculiarities of the vessels of the iris; as Waller originally showed, they are spiral or zigzag, so that during contraction or dilatation their lumen is not changed in calibre. It is a well-known physical fact that the raising of the pressure in a fluid contained in a flexible spiral tube tends to cause elongation and straightening of the tube.[1] From this it follows that a rise of blood-pressure in the spiral vessels of the iris would tend to lengthen them and to lead to narrowing of the pupil, and *vice versâ* a fall of blood-pressure to shortening of the vessels and enlargement of the pupil. In the same way, perhaps, may be explained in part the alteration in the size of the pupil associated with changes of tension in the aqueous humour, as in glaucoma or punctured wounds of the cornea.

If, then, alterations in the general arterial blood-pressure can lead to changes in the size of the pupils, inequalities in the local blood-pressure may be expected to lead to inequalities in the size of the pupils. Local inequalities of blood-pressure are of common occurrence in cases of aneurysm; inequality of the radial pulses is frequently noted, and inequality of the carotid or temporal pulse perhaps only less frequently because less often sought. Such differences in the volume of the pulse are not infrequently the result of conditions obtaining which facilitate or retard the flow of blood from the aorta into one or other of the great vessels and the inequality may also exist in the vessels of the iris if the presence of atheromatous degeneration in the circle of Willis prevents rapid equalisation of blood-pressure in that region. It seemed, therefore, that the anisocoria met with in some cases of thoracic aneurysm might be sufficiently explained by unilateral alterations in blood-pressure. It has been our endeavour to submit this view in the first place to the test of clinical experience and secondly to find experimental proof of its validity.

EVIDENCE BASED UPON CLINICAL OBSERVATION.

If in a case of thoracic aneurysm the pupils and the radial pulses are unequal it is commonly found that the radial pulse is greater on the side on which the pupil is smaller. Thus, taking from the records of the London Hospital 26 consecutive cases of inequality of the pupils associated with thoracic aneurysm occurring during the last four years in which definite notes were made concerning the relative size of the radial pulses and of the pupils it was found that in 11 cases the radial pulse was larger on the side on which the

[1] This fact is illustrated in the familiar instruments, Bourdon's steam-pressure gauge and Fick's spring kymograph.

pupil was smaller, in eight the radial pulses were stated to have been equal, and in seven the larger pulse and the larger pupil were stated to have been on the same side. The observation, as a rule, was made by the clinical clerk to the case. It does not necessarily follow that because there is inequality of the radial pulses there must necessarily be a similar inequality in the ophthalmic arteries. It seemed that there would be less risk of fallacy if the relative size of the temporal arteries was recorded and compared with the size of the pupils; since the observations have been thus recorded it has been found to be extremely common for the smaller pupil to correspond to the larger temporal pulse. In fact, up to the present time no negative example has occurred in our experience.

The following cases may be taken as examples:—

CASE 1. *A case of aneurysm of the second and third parts of the arch of the aorta in which the right pupil was greater than the left and the left radial pulse greater than the right.*—A male patient was admitted into the London Hospital in 1900 under the care of Dr. Percy Kidd with signs of an aneurysm of the transverse arch of the aorta pressing upon and obstructing the left bronchus and also causing paralysis of the left recurrent laryngeal nerve. The right pupil was then larger than the left; the left radial pulse was readily felt but the right was scarcely palpable. Both pupils reacted to light and with accommodation. Unfortunately, no note was recorded as to the comparative size of the temporal pulses. He was readmitted in 1902, under the care of Dr. H. Head, with similar signs and shortly afterwards died. At the post-mortem examination a large aneurysm was found involving the transverse arch and the upper half of the descending thoracic aorta; this had pressed upon the œsophagus and the left bronchus and had eroded the third, fourth, and the fifth dorsal vertebræ; the orifice of the innominate artery had obviously been pressed upon and obstructed.

CASE 2. *A case of aneurysm of the transverse arch of the aorta in which the left pupil was greater than the right and the right temporal and radial pulses greater than those on the left side.*—A male patient was admitted to the London Hospital under the care of Dr. A. E. Sansom with the signs of aneurysm of the transverse arch of the aorta. The left pupil was greater than the right and the right radial pulse was greater than the left; on the left side the temporal pulse was scarcely palpable, whereas on the right side it was easily felt. The pupil reactions were normal. Death resulted from rupture into a bronchus and at the necropsy the aneurysm was found to be of the transverse arch of the aorta, eroding the bodies of the third, fourth, and fifth dorsal vertebræ and compressing the apex of the left lung. This case is also of interest in that though the aneurysm was in relation to the trunk of the sympathetic on the left side, yet the left pupil was greater than the right and there was no evidence of sympathetic paralysis.

CASE 3. *A case of aneurysm of the first part of the arch of the aorta in which the right pupil was greater than the left and the left radial pulse greater than the right.*—A male patient was admitted to the London Hospital in 1901 under the care of Dr. A. E. Sansom with a pulsating fluctuating swelling in the second and third right intercostal spaces which was diagnosed as an aneurysm of the first part of the arch of the aorta. There was no laryngeal paralysis. The right pupil was greater than the left and the left radial pulse was greater than that on the right. Both pupils reacted to light and with accommodation.

CASE 4. *A case of aneurysm of the arch of the aorta in which the right pupil was greater than the left and both temporal and radial pulses on the left side greater than those upon the right.*—A male patient was admitted to the London Hospital in 1901 under the care of Dr. Stephen Mackenzie with the signs of an aneurysm of the first part of the arch of the aorta and of pulmonary tuberculosis at the right apex. The right pupil was sometimes equal to, and sometimes larger than, the left; the temporal and radial pulses on the left side were greater than those on the right. Both pupils reacted to light and with accommodation. At the necropsy there was found to be extensive pulmonary tuberculosis at the apex of the right lung and two aneurysms sprang from the first part of the arch of the aorta, one passing into the right lung and the other passing back into the posterior mediastinum. Neither of these aneurysms came into relation with the trunk of the sympathetic nor were there any signs of interference with its function.

It is unnecessary to multiply examples; these cases will suffice as instances of enlargement of the pupil upon that side upon which there is presumptive evidence in favour of some obstruction of the blood flow and absence of any evidence of interference with the sympathetic.

In the next place clinical evidence was sought to show the effect of obstruction of the carotid vessels in the neck. These cases serve to confirm the accuracy of the other observations.

CASE 5. *A case of aneurysm of the innominate artery in which the right pupil was greater than the left and the left temporal and radial pulses greater than the right.*—A female patient was admitted to the London Hospital in 1902 under the care of Dr. A. E. Sansom. There was a pulsating swelling at the root of the neck on the right side; the temporal and radial pulses on the right were smaller than those on the left, and the right pupil was greater than the left.

CASE 6. *A case in which the right common carotid was tied for aneurysm in the innominate artery.*—A patient was admitted to the London Hospital in 1901 under the care of Mr. Waren Tay with an aneurysm at the root of the neck in the right side. The pupils were then equal. Distal ligature of the common carotid was performed by Mr. T. H. Openshaw. After the operation the right temporal pulse could not be felt and the right pupil was larger than the left, and so remained.

CASE 7. *A case in which the left common carotid was tied for primary hæmorrhage.*—A boy, aged 12 years, was admitted to the London Hospital in 1902 under the care of Mr. C. W. Manseli Moullin suffering from a wound of the left common carotid artery which had been inflicted by some broken glass. The artery was ligatured but the hæmorrhage had been so great that the patient died two hours later. After the ligature the left pupil was found to be greater than the right and so remained until death.

Summary of the Cases.

Case.	Diagnosis.	Larger pupil.	Larger pulse.
1.	Aneurysm, second and third parts of aortic arch.	Right.	Left (radial).
2.	Aneurysm of transverse arch.	Left.	Right (radial and temporal).
3.	Aneurysm of first part of arch.	Right.	Left (radial).
4.	Aneurysm of first part of arch.	Right.	Left (radial and temporal).
5.	Aneurysm of innominate artery.	Right.	Left (radial and temporal).
6.	Ligature of right common carotid artery.	Right.	Left (temporal).
7.	Ligature of left common carotid artery.	Left.	Right (temporal).

EVIDENCE BASED UPON EXPERIMENTS.

In order to test the accuracy of the clinical evidence experiments were made on animals. Rabbits were chosen for the purpose of the observations and the results obtained were briefly as follows.

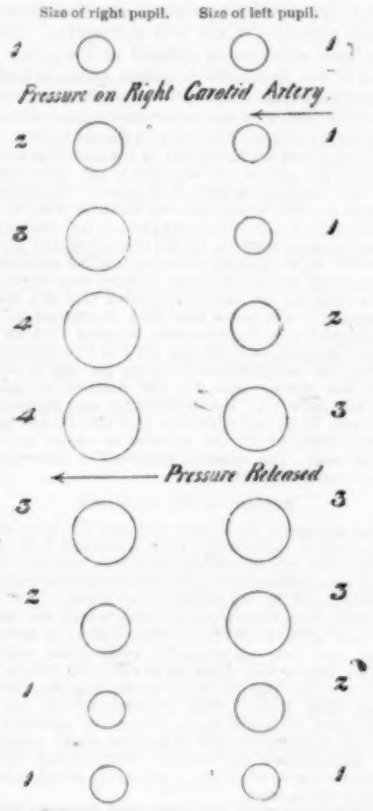
EXPERIMENT 1.—If a rabbit be anæsthetised and its carotid artery be exposed and separated from its sheath compression of the artery sufficient to abolish circulation through it may produce an alteration of the pupil. The effect, if any, is an enlargement of both pupils. This is by no means constant, but is best seen with pupils moderately contracted at the outset. The change produced is slight. Whether it is absolutely synchronous in both pupils could not be definitely determined owing to the impossibility of watching both the eyes of a rabbit at the same time. It is, however, not markedly asynchronous.

EXPERIMENT 2.—If the animal be now killed and water forcibly injected into one carotid artery the pupil on that side diminishes in size. The amount of diminution which can thus be caused is considerable in degree, but not extreme, and is more marked in an originally dilated pupil than in one which was already contracted. This is in accordance with our clinical experience in comparable cases. The alteration is entirely independent of intra-ocular tension occurring equally well after crucial incision of the cornea and removal of the lens in the dead animal. The effect of such injections is entirely unilateral. It follows that unilateral alterations of intra-vascular pressure can cause considerable

variations in the size of the pupil. And we were led to attribute the fact that closure of one carotid artery does not produce in rabbits a marked or even definite inequality of pupil to the influence of two factors: first, that the communication between the vessels at the base of the brain appears to be extremely free, so that a unilateral fall of pressure is almost instantly felt equally on the two sides and both the pupils undergo a slight enlargement; and secondly, that in the lower animals the vertebral arteries play relatively a much greater part in the arterial supply than is the case in man. Thus even in dogs, as shown by Dr. Leonard Hill, the vertebral arteries alone can perfectly maintain the cerebral circulation.

It therefore seemed advisable to try the same experiment in a suitable animal after one or both vertebral arteries had been ligatured. This procedure was, however, made unnecessary by the discovery that we could invariably produce the desired result upon ourselves by the unilateral compression of the artery. And the same facts have been observed on others.

EXPERIMENT 3.—If digital pressure be applied to one carotid artery sufficient to abolish or considerably reduce the temporal pulsation on that side the following events present themselves (see Figure). The pupil on the same side gradually



Diagrammatic view of effect of pressure on the carotid artery upon the pupils. The figures 1, 2, 3, 4 indicate varying sizes. At the commencement both pupils are the same size. Pressure being made on the right carotid artery, the right pupil dilates, the left pupil remaining the normal size. As the pressure is kept up the left pupil gradually dilates until it becomes nearly as large as the right. On the pressure being relaxed the right pupil soon contracts. The left contracts also, but much more gradually.

enlarges and it remains enlarged so long as pressure is maintained. A little later an enlargement of the opposite pupil follows. This pupil eventually reaches the size of that upon the side of pressure in certain individuals, but does not usually do so. Ordinarily a condition is obtained in which both pupils are larger than before, and that upon the side of pressure definitely larger than the other. On now releasing pressure both the pupils gradually regain their normal size, that on the side of pressure lessening distinctly earlier than its fellow. In this experiment we attribute the enlargement of the pupil on the same side to the immediate fall of pressure in the ocular vessels which results from the compression of the carotid artery. The subsequent enlargement on the opposite side is due to the general fall of pressure in the circle of Willis which results from the same cause. In the majority of individuals, as we believe, the communication at the base of the brain is not sufficiently free to equalise this pressure after the closure of one carotid artery in the neck, and inequality of pupils is the consequence. In cases of aneurysm this is likely to be even more marked in consequence of the atheroma usually associated with them; this would considerably affect compensatory flow through the communicating arteries, rendering them rigid and less easily dilatable. Where ultimate equality of the dilated pupils shows itself in this experiment it is probably due to an unusual freedom of communication through these communicating vessels in the individual concerned. The phenomena in question are not due to pressure on the sympathetic in the experiment, for other evidences of its paralysis are conspicuously absent, and both the pupils share in the effect. Nor are they due to a cervical reflex, for the enlargement is asynchronous and asymmetrical; and similar pressure may be made upon the neck allowing the carotid artery to slip aside without producing any such result. That they are vascular in origin is further shown by the fact that on release of pressure the return diminution of the pupils occurs by a series of small waves or oscillations synchronous with the pulse in the carotid. The left carotid artery will usually be found the easier for the purposes of demonstrating these results, but they are readily obtained with either. In cases of aneurysm with unequal pupils we find that pressure on the carotid artery on the side of the small pupil results in its enlargement. That this effect is purely vascular is again suggested by the fact that one such patient volunteered the statement that he temporarily lost the vision of the eye concerned while the compression lasted. Both on clinical and on experimental grounds, then, it seems reasonable to suppose that inequality of the pupils may be the result of local inequalities of blood-pressure, and seeing that in many cases of thoracic aneurysm such conditions obtain, while evidence of implication of the nervous system is entirely absent, it is justifiable to conclude that anisocoria when present is due not to nervous but to vascular conditions.

GENERAL SUMMARY.

A.—The explanation which ascribes the anisocoria at times occurring in cases of thoracic aneurysm to interference with the sympathetic is unsatisfactory. 1. On anatomical grounds: (*a*) because in the majority of cases there is no evidence of implication of that portion of the sympathetic nerve trunk containing pupil dilator fibres; and (*b*) because it is not established that sympathetic filaments supply the sac wall of an aneurysm. 2. On physiological grounds: (*a*) because the explanation supposes that the same conditions may produce sometimes irritation and sometimes paralysis of the nerve; (*b*) because cases are rare in which there is any evidence apart from the pupillary change that the sympathetic is involved; and (*c*) because the pupillary changes are not those met with in cases where the sympathetic is involved.

B.—1. Alterations in vascular conditions may be associated with alterations in the size of the pupils. (*a*) High arterial tension is associated with small pupils; and (*b*) low arterial tension is associated with large pupils. 2. The physical explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris.

C.—Local inequalities of blood-pressure may therefore be associated with inequalities of the pupils. (*a*) Clinical evidence: 1. Enlargement of pupils is frequently associated with diminution of the temporal and radial pulses on the same side of the body. 2. Obstruction of the carotid artery on one side of the neck is associated with enlargement of the pupil upon the same side. (*b*) Experimental evidence: 1. Obstruction of the carotid in rabbits is associated with enlargement of the pupils on both sides owing to the freedom of circulation at the base of the brain. 2. Injection of water into a carotid artery of a dead rabbit causes narrowing of the pupil upon the same side. 3. Digital compression of the carotid artery in the human subject is associated with enlargement of the pupil upon the same side.

CONCLUSION.

Inequality of pupils associated with thoracic aneurysm is usually due to inequality of blood-pressure in the ophthalmic arteries resulting from the abnormal vascular conditions.

Our best thanks are due to Dr. Mackenzie, Dr. Sansom, Dr. Kidd, and Dr. Head, and to Mr. Waren Tay, Mr. Mansell Moullin, and Mr. Furnivall for permission to record the cases quoted. The experimental work was done in the Gordon Laboratory at Guy's Hospital.

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1727. Pourfour de Petit (Mémoires de l'Académie Royale des Sciences, 1727, p. 1, and Histoire de l'Académie Royale des Sciences, 1727, p. 7) claimed that the sympathetic (intercostal nerve) took origin from the spinal cord and controlled the size of the pupil. He described the effect of division of the nerve in animals.

1839. Reid (Edinburgh Medical and Surgical Journal, vol. xlix., p. 132, January, 1838, and vol. lii., p. 38, August 30th, 1839), repeated and confirmed Petit's experiments and showed that division of the nerve led to contraction of the pupil upon the same side.

1846. Serafino Biffi (Omodei: Annali di Medicina, third series, vol. xxii., pp. 630 to 641, vol. cxviii. the Catalogue of the Library of the Royal College of Surgeons of England) demonstrated the effect of stimulating the peripheral and of the divided sympathetic.

1847. Hyrtl (Handbuch der Topographische Anatomie, p. 202) claims that vascular conditions cannot affect the size of the pupils for the following reasons: 1. Because the vessels of the head may be engorged and yet the pupil be large. N.B. The possibility of the size of the pupil varying inversely as the arterial tension has been discussed in the present paper and an attempt has been made to show that venous engorgement, being frequently associated with a fall of the arterial tension, may lead to enlargement of the pupils. 2. Because after death by decapitation the pupils may be small even though the blood has drained from the vessels. N.B. Hyrtl forgot that the cervical sympathetic must have been divided with the rest of the neck and that myosis of nervous origin would therefore be a probable consequence. Langley and Anderson (*vide infra*) accept Hyrtl's statement without further investigation. It is a well-known fact that if an animal be bled to death in a simpler way than by decapitation the pupils become large.

1853. Walshe (Diseases of the Lungs, Heart, and Aorta, p. 759) described inequality of the pupils in association with thoracic aneurysm but did not suggest an explanation.

1854. Brown-Séquard (Comptes Rendus de l'Académie des Sciences, 1854, tome xxxviii., p. 72) extended and completed Claude Bernard's researches.

1855. Gairdner (Edinburgh Medical Journal, August, 1855, p. 153) described a case of thoracic aneurysm which at the necropsy was found to have involved the inferior cervical ganglion of the sympathetic in which during life the pupil on the same side had been the smaller of the two and which did not dilate on shading nor completely on the instillation of atropin. No mention is made of unilateral changes of temperature, sweating, enophthalmos, or ptosis, but the case seems to have been one of some sympathetic paralysis due to the growth of a thoracic aneurysm.

1856. Waller (Comptes Rendus de l'Académie des Sciences, 1856, tome xliii., p. 669) described the spiral or zigzag structure of the vessels of the iris as seen by the microscope in albino rabbits and showed that whether straight when the pupil was small, or coiled when the pupil was large, their calibre did not vary.

1858. Ogle (Transactions of the Royal Medical and Chirurgical Society, 1858, vol. xli., p. 397) wrote on the influence of the sympathetic on the eye and its appendages. This paper is the *locus classicus* for the clinical aspect of the question. Ogle collected 27 cases in which there was some abnormality of the pupils in association with aneurysms, either thoracic or cervical, or with malignant growths in the thorax or neck, or with inflammatory processes in the neck or with injuries of the cervical cord. In some of these there can be no doubt but that there was sympathetic paralysis or interference with the cilio-spinal centre; in others the evidence is not so clear and Ogle is forced into the explanation that at times there may be an irritation of the sympathetic acting at times directly on the trunk and at times on the sympathetic filaments supplied to the sac wall of an aneurysm. It is noteworthy that in the cases where this explanation is necessary there is no record of any sign, beyond inequality of the pupils, of implication of the sympathetic. Since the publication of Ogle's paper all text-books, both English and foreign, seem to have accepted his theory as sufficient to explain the anisocoria associated with thoracic aneurysm.

1875. Grünhagen and Samkowy (Archiv für die Gesammte Physiologie, x., p. 165) thought that dilatation of the pupil was caused by action of the sympathetic which acted either (1) by decreasing the quantity of blood in the iris so that it shrinks; (2) by contraction of the longitudinal coats of the radially-disposed arteries; or (3) by inhibition of the sphincter iridis.

1892. Langley and Anderson (Journal of Physiology, 1892, vol. xiii., p. 554) in a long and important paper discuss the mechanism of the movements of the iris and conclude that in addition to the sphincter iridis there is a radially-disposed contractile substance, not necessarily muscle though for convenience it is called the dilator muscle. With regard to some of the points discussed in the present paper they hold that the myosis which results from tapping the anterior chamber may be due to the fact that owing to the reduction of tension the ciliary region of the iris is allowed to come forward. We have suggested that it may be partly due to the reduction of the external pressure round a set of spiral vessels in which there is a positive internal pressure. Langley and Anderson accepted Hyrtl's views and thought that variations in blood-pressure could not normally affect the size of the pupil. They found that by injecting blood and warm saline fluid into the carotid no alteration of the pupil could be obtained in a living animal; if, however, the injection was made in a dead animal and with a carmine injection mass myosis resulted. These experiments agree with our own observations which we have attempted to explain as due in the first case to the free anastomosis of the circle and in the second case to an obstruction in that anastomotic ring. Langley and Anderson, on the other hand, consider that the phenomenon is best explained on the supposition that it is due to stimulation of the sphincter iridis. In addition, they confirm Waller's account of the structure of the vessels of the iris and give figures showing how during dilatation of the pupil under atropin or stimulation of the sympathetic the vessels become zigzag and retain their normal calibre.

PRELIMINARY NOTE ON THE CHEMICAL AND THERAPEUTIC PROPERTIES OF LACHNANTHES TINCTORIA.

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LAST December, at the request of Dr. P. W. Latham of Cambridge, we undertook to investigate the chemical and therapeutic properties of the herb lachnanthes. Our investigations were considerably delayed at the outset by the facts that it was impossible to obtain either in England or in America more than a few pounds of the plant for nearly three months and that we experienced great difficulty in obtaining really virulent cultures of tubercle bacilli. At the present moment we are hampered by the fact that so small a quantity as 10 pounds of the plant has practically exhausted the available supply in England. Comments have been made on this delay and we think it well to issue a statement of the results which we have so far obtained.

The lachnanthes used by us was first submitted for examination to Mr. E. M. Holmes, the curator of the museum of the Pharmaceutical Society of Great Britain, who kindly undertook this duty for us and who certified that the specimens were genuine. The plant was then forwarded to Messrs. John Bell and Co. of Oxford-street in order that an extract might be prepared, and we are glad of this opportunity of expressing our indebtedness to them for the trouble they took in the matter and for the amount of time they gratuitously gave us. The lachnanthes was thoroughly exhausted with 70 per cent. alcohol and the alcohol was then completely distilled off the solution *in vacuo* and without the aid of heat. The solution obtained in this manner was employed in our experiments.

REPORT BY MR. GARDNER.

The extract made by Messrs. Bell and Co. from seven and a half pounds of lachnanthes herb contained 2·88 per cent. of solids. The whole extract, free from alcohol, was precipitated with lead acetate; the precipitate was then washed and decomposed by sulphuretted hydrogen. The aqueous filtrate yielded on evaporation a syrup which was soluble in alcohol and also in acetone. The solution in acetone was deep-red and on spontaneous evaporation yielded no crystalline matter but dried to a deep-red brittle shellac-like solid. The lead sulphide precipitate was dried and extracted with ether. This ethereal extract deposited a small amount of a red solid, whilst the residue on treatment with acetone yielded a further small amount of a yellow deliquescent substance. The mother liquor on spontaneous evaporation left a red syrup which constituted the bulk of the extract.

After extraction with ether the lead sulphide precipitate was extracted with 94 per cent. alcohol, and this extract yielded on spontaneous evaporation two or three grammes of a red crystalline solid, whilst the mother liquid dried to a red tarry matter, soluble in acetone, but which as yet has shown no signs of crystallisation. This constituted the bulk of the extract.

The filtrate from the lead acetate precipitate was now precipitated with lead subacetate. The precipitate thus obtained was decomposed by sulphuretted hydrogen as before and filtered. The aqueous filtrate contained the bulk of the resinous matter set free; it was evaporated and the residue exhausted with alcohol. A small portion was, however, insoluble in alcohol and was re-crystallised from water. The alcoholic extract was evaporated and extracted with

water, when a small amount remained undissolved. The bulk dissolved and on evaporation yielded a brittle, yellow, deliquescent, amorphous solid which was, however, soluble in water and insoluble in chloroform. It contained no nitrogen, did not reduce Fehling's solution, and was unsaturated. There were about from four to five grammes of this.

The lead sulphide precipitate was extracted with ether and alcohol. These extracts yielded small deposits of crystalline matter, but for the most part dried to a red viscous substance.

The filtrate from the lead subacetate was treated with sulphuretted hydrogen, the lead sulphide filtered off, and the filtrate evaporated to a dark syrup which was not sweet. This syrup was treated with animal charcoal and the aqueous extract was evaporated. A syrup was obtained which on standing for some weeks deposited crystals. These were filtered on the pump and recrystallised from dilute alcohol. The mother liquor on evaporation left a syrup.

As soon as a sufficient supply of the necessary material can be obtained the nature of these various bodies will be ascertained, as far as it is possible to do so.

REPORT BY DR. SPITTA AND DR. ARTHUR LATHAM.

In these experiments the aqueous solution made by Messrs. Bell and Co. was used. The extract was not wholly dissolved, consequently the suspended matter was thoroughly shaken up before the injections were made. Guinea-pigs were the animals employed.

The difficulty experienced at the outset of the investigations in obtaining really virulent cultures of tubercle bacilli was overcome by employing the caseous glands—pounded up in sterile normal saline—of guinea-pigs which had been inoculated with fresh tuberculous sputum. These emulsions, which microscopically were very rich in tubercle bacilli, were employed in each series of experiments.

SERIES I.

The following Experiments were made to ascertain the Lethal Dose of Lachnanthes.

Guinea-pig.	Inoculation.	Result.
No. 1	1 cubic centimetre of the aqueous solution.	Intra-peritoneal injections. No effect.
,, 2	2 cubic centimetres.	,, ,, ,,
,, 3	3 ,,	,, ,, ,,
,, 4	4 ,,	,, ,, ,,
,, 5	5 ,,	Death in 48 hours.
,, 6	6 ,,	,, 24 ,,
,, 7	8 ,,	,, 12 ,,

Symptoms.—There was paralysis of the hind limbs, then of both the anterior and posterior extremities, with twitching of the muscles and spasmodic movements of the limbs. The animals were unable to stand and they fell on their sides. The muscles of the jaw were affected and there was twitching.

Post-mortem examination.—There was no hæmorrhage in the spinal cord. The gall-bladder was full. The peritoneum contained granules of pigment and the omentum was deeply pigmented. The phagocytes contained granules of pigment. (N.B.—This pigment represents the insoluble material deposited at the bottom of the bottle containing the extract.)

SERIES II.

Control Animals Inoculated with Tuberculous Material.

Guinea-pig.	Weight in grammes.	Inoculation.	Result.
No. 1	260	Inoculated subcutaneously at the knee with 0·5 cubic centimetre of emulsion, in normal sterile saline, of caseous glands of a guinea-pig dead from typical tuberculosis.	Death in six weeks from typical tuberculosis.
,, 2	276	The same.	Death in seven weeks and two days from typical tuberculosis.

Animals Inoculated with Tuberculous Material and Lachnanthes.

No. 3	261	The same plus three cubic centimetres of the solution of lachnanthes injected subcutaneously at the knee on the opposite side.	Death in five weeks and two days. Typical tuberculosis.
,, 4	268	The same.	Death in six weeks and one day. Typical tuberculosis.
,, 5	251	0·5 cubic centimetre of emulsion of bacillus tuberculosis as above. One cubic centimetre of the solution of lachnanthes was injected twice a week subcutaneously till death.	Death in 10 days. Nothing was found post mortem save enlargement of the inguinal glands and deep lumbar gland on the side inoculated with tubercle bacilli.
,, 6	250	The same.	Death in four weeks and four days. Typical tuberculosis.

SERIES III.

Control Animals Inoculated with Tuberculous Material on May 23rd, 1902.

Guinea-pig.	Inoculation.	Result.
No. 1	Inoculated with 0·5 cubic centimetre of emulsion of the glands from guinea-pig No. 1 in Series II. in normal saline.	Death in five weeks and two days from typical tuberculosis.
,, 2	The same.	Death in four weeks and three days from typical tuberculosis.

Animals Inoculated with Tuberculous Material and Lachnanthes.

No. 3	The same plus three cubic centimetres of solution of lachnanthes injected subcutaneously on the opposite site at the knee.	Death in five weeks and two days from typical tuberculosis.
,, 4	The same.	This animal was lost at the Jenner Institute.
,, 5	0·5 cubic centimetre of emulsion of bacillus tuberculosis as above. One cubic centimetre of solution of lachnanthes was injected subcutaneously twice a week.	Death in 19 days. Post mortem the inguinal and deep lumbar glands were enlarged on the inoculated side. The spleen was enlarged and studded with nodules. Tubercle bacilli were found. The retro-hepatic gland was enlarged. Neither liver nor lung was infected. The glands on the opposite side were not enlarged.
,, 6	The same.	Death in 25 days. Post mortem there was enlargement of the inguinal and the deep lumbar glands on the inoculated side. The spleen was enlarged and studded with nodules. Tubercle bacilli were found. The liver was infected; a few small scattered nodules were present. The retro-hepatic gland was enlarged and hard. No lung infection was seen. There was no glandular enlargement on the uninoculated side.

Conclusions.—It would appear from the above that lachnanthes consists largely of a resinous substance or substances and some body which is precipitated by lead subacetate and is soluble in water. Further, so small a dose as five cubic centimetres of an aqueous solution of the material obtained by alcoholic extraction of the plant is sufficiently powerful to kill guinea-pigs, whilst doses varying from one cubic centimetre to three cubic centimetres of the same solution do not exert any inhibitory action upon the progress of tuberculosis but rather seem to hasten it. Further experiments are being made and will eventually be published.

MEDICAL MEN AND CRICKET.—A cricket match was played at Exeter on July 2nd between "Doctors" and the "Exeter Home Team," which resulted in an easy win for the medical men, who scored 204 runs against their opponents' 47.

LEUCOCYTOSIS IN APPENDICITIS.

BY C. J. NEPEAN LONGRIDGE, M.D., CH.B. VICT., M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR HOUSE PHYSICIAN TO ST. GEORGE'S HOSPITAL.

HÆMATOLOGICAL examination as an aid to diagnosis and a guide to the suitable season for operation in cases of abdominal inflammation is beginning to be held in some repute in this country. The method need not be described; it may, however, be mentioned that the counts recorded in the accompanying table were taken with a Thoma-Zeiss hæmocytometer, and the differential counts were made by means of films stained with Jenner's fluid. The results point to much the same conclusions as have been arrived at by Cabot, da Costa, Joy and Wright, and other investigators.

It is not claimed that the leucocyte count will give an absolute and infallible indication of the presence or absence of pus. Such an indication is not of the *most* vital importance since pus *per se* does not kill. But the question as to whether a morbid process is of increasing virulence or not hardly needs to have its importance pointed out. It is considered that in the leucocyte count we have a means to answer this important question, for a progressive increase

TABLE SHOWING THE RESULTS OF HÆMATOLOGICAL EXAMINATIONS IN CASES OF APPENDICITIS.

No.	Date.	Age.	Sex.	Corpuscles.		Polymorphonuclear cells.	Lymphocytes.	Hyaline.	Eosinophile.	Remarks.
				Red.	White.					
1	March 17th	38	M.	5,050,000	62,500	85·4%	5·6%	8·6%	0·6%	Gangrenous appendicitis.
	April 16th	—	—	3,916,000	15,150	—	—	—	—	—
	,, 25th	—	—	4,662,000	12,500	62·0	29·6	6·0	2·4	—
2	March 31st	31	F.	3,165,000	16,750	57·0	31·3	10·7	1·0	Chronic catarrh, with slight ulceration.
3	April 4th	34	M.	3,500,000	11,000	69·0	23·65	5·15	2·2	Chronic catarrhal.
4	,, 4th	31	M.	3,110,000	26,000	83·0	9·8	6·0	0·2	Stercolith and foul abscess.
	,, 20th	—	—	4,083,000	23,750	—	—	—	—	Still discharging; fæcal fistula formed.
	May 3rd	—	—	4,064,000	10,950	—	—	—	—	Healed.
5	April 5th	21	F.	4,050,000	9,375	60·8	25·2	11·2	2·8	Pain subsided; no operation.
6	,, 19th	23	M.	3,928,000	6,250	54·8	34·0	8·0	3·2	—
	May 1st	—	—	—	13,990	—	—	—	—	The temperature rose to 100° F. on April 30th. Operation: much inflammatory matting; no pus.
	,, 10th	—	—	4,960,000	10,170	—	—	—	—	Healed.
	,, 18th	—	—	4,496,000	7,310	—	—	—	—	—
7	March 15th	30	M.	5,080,000	6,200	—	—	—	—	Pain subsided. Colic.
8	April 20th	51	M.	5,344,000	11,250	77·0	17·4	4·8	0·8	—
	,, 22nd	—	—	—	11,480	—	—	—	—	—
	,, 24th	—	—	—	11,080	—	—	—	—	Extensive ulceration of the appendix.
9	,, 21st	13	M.	4,883,200	14,500	69·0	17·0	12·0	2·0	—
	,, 28th	—	—	4,560,000	17,100	—	—	—	—	—
	May 2nd	—	—	4,478,000	10,000	—	—	—	—	Tuberculosis of the appendix and involvement of the mesenteric glands.
	,, 10th	—	—	4,332,000	7,900	—	—	—	—	—
10	April 22nd	16	F.	3,800,000	9,375	60·2	31·8	7·0	1·0	No inflammation. Soft stercolith.
11	,, 22nd	21	F.	3,300,000	25,750	75·6	19·0	5·0	0·4	—
	,, 23rd	—	—	—	31,000	—	—	—	—	Appendix normal. Pyosalpinx.
	,, 27th	—	—	3,384,000	21,150	84·0	10·0	5·4	0·6	—
	May 8th	—	—	3,760,000	17,170	—	—	—	—	Discharging.
	,, 18th	—	—	4,000,000	14,620	—	—	—	—	—
	June 5th	—	—	4,230,000	8,905	58·2	33·4	10·8	3·6	Healed.
12	April 24th	23	F.	4,112,000	6,500	—	—	—	—	—
	May 1st	—	—	—	7,960	—	—	—	—	Pain subsided; no operation.
13	,, 6th	21	F.	3,664,000	7,150	—	—	—	—	Very slight catarrh.
14	April 24th	28	F.	4,368,000	25,000	85·0	8·0	6·0	1·0	—
	,, 25th	—	—	4,264,000	27,300	—	—	—	—	Appendix long and gangrenous.
	May 1st	—	—	—	29,250	—	—	—	—	—
	,, 8th	—	—	4,032,000	14,300	—	—	—	—	On May 3rd the wound broke open; discharge of pus.
	,, 18th	—	—	5,000,000	6,360	—	—	—	—	Healed.
15	,, 7th	31	F.	4,320,000	35,900	89·2	5·6	4·8	0·4	Extensive foul abscess in connexion with the appendix.
	,, 11th	—	—	4,410,000	25,260	—	—	—	—	—
	,, 18th	—	—	3,552,000	19,710	—	—	—	—	Discharging.
	,, 30th	—	—	—	8,587	—	—	—	—	—
	June 11th	—	—	5,950,000	10,170	56·4	33·5	8·0	1·0	Healed.
16	,, 16th	28	M.	5,100,000	9,540	57·8	29·0	9·2	4·0	Soft stercolith. No ulceration.
17	May 9th	30	F.	4,984,000	36,570	85·0	6·6	7·6	0·8	Appendix and cæcum ulcerated with patches of gangrene.
	,, 13th	—	—	5,010,000	17,880	—	—	—	—	—
	,, 21st	—	—	4,976,000	11,450	—	—	—	—	Healed.
18	,, 19th	32	M.	5,016,000	32,334	85·2	7·8	6·6	0·4	Localised abscess round the appendix.
	,, 22nd	—	—	4,833,000	15,286	—	—	—	—	—
	,, 28th	—	—	5,000,000	12,723	—	—	—	—	—
	June 6th	—	—	4,000,000	11,130	60·0	30·2	8·0	1·8	Healed.
19	May 17th	9	M.	4,432,000	18,440	91·0	3·6	5·8	0·4	General peritonitis. Appendix acutely inflamed.
	,, 18th	—	—	—	19,080	—	—	—	—	Death.
20	June 2nd	11	M.	5,330,000	29,521	82·6	10·0	7·0	0·4	Appendix perforated. Large abscess. Death.

in the number of leucocytes may be taken as evidence that the inflammatory lesion is developing in severity and may be reaching the stage of pus formation.

Perhaps of even more importance than the quantitative count is the qualitative count of the leucocytes, since it is found that in almost every case the polymorphonuclear cells are increased out of proportion to the other elements; and this fact alone, apart from any great increase in the absolute number of leucocytes, is of the greatest significance.

There may be no leucocytosis in cases of appendicitis under the following conditions: (1) the mild catarrhal variety; (2) fulminating appendicitis where the resistance of the patient is too feeble to react to the toxæmia; and (3) where an abscess is of some standing and is thoroughly walled off.

A CASE OF EXCISION OF CHRONIC GASTRIC ULCER.

BY THOMAS H. KELLOCK, F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, W.C.

THE following case seems worth recording showing as it does how much in a suitable case surgery has to offer to a patient suffering from chronic gastric ulcer which, whilst not actually endangering life from hæmorrhage, may be sufficient from the symptoms it causes to make the patient's life one of very considerable misery and suffering.

In October, 1901, I was asked by Dr. C. T. Aveling of Stamford Hill to see a patient under his care who gave the following history. She was 36 years of age; she had been married for 12 years but had had no children. With the exception of measles when quite young she had had no illness until the present one which began when she was 17 years old, since when she had always suffered from what she described as "chronic dyspepsia" with severe pain in the epigastrium and back after taking food. She had always had to be very careful in her diet and to take very small quantities of food at a time, otherwise the pain was rendered very acute. Certain forms of food she had had to avoid altogether, as she knew from experience that they would bring on an attack of pain. Up to the age of 24 years she was fairly plump but from that time onwards she had lost flesh considerably. Since 1898 the symptoms had become worse and she had been constantly laid up, the attacks of pain became more frequent, accompanied by vomiting, and this independently of the ingestion of food. So suddenly did these attacks occur that frequently she had been sick in the street and had avoided going out for that reason. On one occasion, whilst engaged in active housework, she vomited suddenly and thought that there were a few streaks of blood in the matter which she brought up; apart from this doubtful occasion there had been no hæmatemesis at any time. The bowels had generally been constipated, the catamenia regular.

The patient first came under Dr. Aveling's care in 1898, the symptoms then indicating gastritis. Under treatment by medicine and dieting she improved for a time, but in July, 1901, she was again under treatment, gastric ulcer being suspected; she then had tenderness over one particular spot at the epigastrium. The usual treatment brought about no improvement although she dieted herself most carefully. With rest in bed and a nearly dry diet she improved a little but relapsed directly she got about again. The patient was a small, anæmic, very thin woman weighing 5 stones 11 pounds. Her face was thin and drawn and she complained of a feeling of great weakness. The abdominal walls were thin and retracted. A little tenderness was found on deep palpation over the region of the stomach but there was no evidence of other visceral disease. She and her friends were anxious that an attempt should be made to relieve the condition by operation, as, although treatment by medicine and dieting had somewhat relieved the attacks of pain, her general condition was becoming worse.

On Oct. 16th, at the Clapton Nursing Home, after suitable preparation in the way of dieting, the abdomen was opened through the upper part of the left rectus muscle. The anterior wall of the stomach when exposed appeared to be quite healthy, but what almost immediately attracted notice was a V-shaped opening in the lesser omentum and directly behind this a single round hard band which was attached by one end to the hepatic part of the lesser omentum and by the other to a hard depressed spot in the posterior wall of the stomach near the cardiac end of the lesser curvature. This was ligatured and divided, the upper end retracting considerably on section. On examining the stomach no sign of disease except the hard spot just mentioned could be detected by inspection or palpation and it was found possible to draw this part forwards through the opening in the lesser omentum. This having been done three temporary sutures were passed through the serous and muscular coats to hold the stomach forwards, and, after packing all round with sterilised gauze, the indurated part was excised by two curved incisions made one on either side of it through what appeared to be soft, healthy stomach-wall. The stomach was found to be quite empty, nothing escaping when it was opened. A little bleeding from the cut edges was arrested by pressure forceps and the opening was closed by three layers of silk sutures—the first in the mucous membrane only, the second in the muscular coats, and a third in Lembert's fashion in the serous coat, turning in a fair margin on either side and extending a little way beyond either end of the incision. After cleansing the exposed part of the stomach it was returned and the wound in the parietes completely closed. The patient was rather collapsed and retched a good deal just as the operation was concluded; 10 ounces of hot saline solution were injected into the rectum and the collapse soon passed off. On examining the part of the stomach wall removed it was found to comprise the whole of a circular ulcer about half an inch in diameter surrounded by a hard turned-in edge. The floor of the ulcer was hard and scar-like, the tissue composing it appearing to be continuous with what was left attached of the adhesion. The induration around the ulcer spread a very short distance, the cut edges being soft and apparently quite healthy.

The subsequent history of the case was satisfactorily uneventful. Rectal feeding exclusively was employed for seven days, after which it was gradually discontinued and food by the mouth was substituted. The abdominal wound gave no trouble; it was healed and the stitches were removed on the eleventh day. The patient complained on a few occasions of a sharp pain in the left side on attempting to move, but at the end of three weeks she was getting up, walking a little, and taking a fair amount of solid food without pain or discomfort. In April, 1902 (five months after the operation), the report of her condition was "Weight, 7 stones 13 pounds [i.e., she had gained 2 stones 2 pounds]; has had no medicine for two months; can walk five miles at a stretch; has no pain, can eat any ordinary food, and 'is better than she has been for years.'"

A few points in the case seem worthy of remark. It is unlikely that many would be found lending themselves so readily to radical treatment and on commencing the operation I hardly hoped to find a state of things so easily dealt with. The explanation of the opening in the lesser omentum and the dense band of adhesion behind it was probably that at some time the ulcer had actually, or almost, perforated all the coats of the stomach and become adherent to the lesser omentum and that the movements of the stomach had drawn that part of the omentum to which it had become attached away from the rest of that structure and so had formed the cord-like process found at the operation. It is possible that the tension in this tight band had been the cause of the pain and vomiting which were set up on any movements of the stomach, and when this was found the question naturally arose in my mind whether it would be sufficient to ligature and to divide it and then simply to invert the wall of the stomach round the indurated part in the hope that the ulcer would subsequently heal, and so to avoid the more serious part of the operation—the opening of the stomach itself. The absence, however, of any evidence of affection of any other part of the stomach and the limitation of the induration to the immediate neighbourhood of the ulcer as shown by palpation seemed sufficient justification for the more radical course which was adopted.

I am indebted to Dr. Aveling for the notes of the case before operation and the report of the condition of the patient in April, 1902. To his care after the operation and to the assiduous attention received in the nursing home the patient owes much of the satisfactory issue.

Queen Anne-street, W.

THE TREATMENT OF EARLY MENTAL CASES.

BY F. S. TOOGOOD, M.D. LOND.,
MEDICAL SUPERINTENDENT TO THE LEWISHAM INFIRMARY.

THE articles by Dr. Nathan Raw[1] and by Dr. J. W. Springthorpe[2] and the able leading article in THE LANCET of June 28th, p. 1842, must be my excuse, if any be needed, for again writing on this subject. Those responsible for the care of mental cases know that a very large proportion of their patients recover their mental balance within a few days under suitable treatment. I do not propose to write a lengthy disquisition upon the causes of temporary insanity. In the main my experience tallies with that of Dr. Raw and Dr. Springthorpe. I have notes of several cases in which the mental aberration cleared up entirely with the removal of abdominal tumours, and many others in which restoration to bodily health coincided with the restitution of the mental equilibrium, but in my experience alcoholic excess is responsible for the great bulk of the cases of temporary insanity. The ordinary cases of delirium tremens are too well known to need any comment, but there are other cases which give none of the signs of delirium tremens and yet are certainly due to alcohol. The most common class is that of a dementia varying in its degree. The patient has very little memory either for remote or for recent events. He can do very little for himself; he forgets how to dress himself; he takes his clothes off and attempts to put them on again 50 times a day. Unless carefully watched he passes his excretions under him, or, perhaps, urinates against the wall of the ward. He does not ask for food or drink, but when supplied feeds himself in a primitive and dirty manner. When asked to give an account of his doings for the day he usually details rambles into the geography of which the names of taverns conspicuously enter. Usually these cases clear up within a month or six weeks. There is also a class of cases which is distinctly maniacal, and another the members of which are typically melancholic.

Occasionally one meets with a case in which disturbances of the special senses are met with and which are recognised as phantasies by the patient. I remember the case of a seaman who was admitted to the mental wards of St. George-in-the-East Infirmary and whose trouble was the apparition of a female walking a few paces ahead of him and who would suddenly jump over the nearest block of warehouses. The patient was quite aware of the unreality of this apparition, but it was very life-like in its appearance and persisted for weeks. Disturbances of audition, taste, and smell are, of course, much more common.

It was to avoid sending such cases away to asylums that I requested the justices of the peace and my board of guardians to permit me to treat all cases of insanity in the wards of the infirmary and I cannot sufficiently thank Mr. Brownlow Poulter, J.P., and Mr. William Brown, J.P. and chairman of the Lewisham board of guardians, for the interest which they have taken in the experiment and for their persistent endorsement of my request for an efficient mental block.

Taking advantage of Section 21, sub-section 1, of the Lunacy Act, 1890, which gives power to detain a lunatic in the wards of a workhouse for 14 days, we as a matter of routine never sent a case to an asylum until that period had elapsed. The results have been remarkable—only one-third of the total number have been sent to asylums. For three years these cases were treated in ordinary small wards; there were no padded rooms and mechanical restraint was very rarely necessary. I do not agree with Dr. Raw when he says that cases of delirium tremens cannot be certified as legally insane. I have always certified them as being of unsound mind, and I have experienced no difficulty in treating them in an ordinary hospital ward. We have now a separate building specially built for the treatment of mental cases, and although there are padded rooms I very rarely find it necessary to use them.

Surely, what has been done in a Poor-law infirmary can be done in a general hospital. There is an ample field amongst the non-pauper classes who very properly object to a Poor-law infirmary but who would have no objection to enter the wards of a hospital. Such a course would be very beneficial to the student who, as a rule, knows nothing whatever of lunacy and has probably never seen a certificate. To the patient and his friends the advantage will be enormous: two-thirds of the patients will be cured, and no stain of lunacy will rest upon the patient or his family. Those of us who work amongst the lower classes know that a person who has once been an inmate of a lunatic asylum has a very poor chance of obtaining settled employment where he is known, whilst the marrying prospects of the girls of the family are materially reduced. The "stigma" of lunacy is a very real one and must be taken into consideration. The mental wards of a hospital would, of course, have to be licensed or registered and would be subject to the inspection of the Visitors in Lunacy.

To the proposed reception houses of the London County Council I have the greatest objection. By whatever title it may please the council to call them to the general public they will be lunatic asylums and we have no guarantee that they will be available for clinical instruction or that the medical staff will be sufficiently relieved of routine duty to enable its members to give efficient instruction. The disadvantage to the student in being compelled to travel to the reception house instead of having the cases under the roof of his own medical school is too obvious to need discussion. The enormous cost might perhaps interest the ratepayer and the distance from home would be a real hardship to the patient's friends.

So far as the pauper class in London is concerned the question has been met by the Poor-law authorities, mental wards having been established in all the metropolitan infirmaries; it is now for the general hospitals to deal with the cases arising in the class for which they cater.

Lewisham, S.E.

[1] THE LANCET, June 14th, 1902, p. 1681.
[2] THE LANCET, June 14th, 1902, p. 1684.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF FATAL PERFORATION OF THE ŒSOPHAGUS IN A YOUNG GIRL.

(Under the care of Dr. NESTOR TIRARD.)

PERFORATION of the œsophagus not due to trauma or to ulceration from a malignant growth is of extreme rarity. Occasionally it results from severe vomiting, but then some predisposing cause is generally present. In the following case a possible explanation is that a bronchial gland had suppurated and burst both into the œsophagus and into the right bronchus. For the notes of this case we are indebted to Dr. Murray Leslie.

A girl, aged 19 years, was on Nov. 12th, 1901, admitted into King's College Hospital, under the care of Dr. Tirard, complaining of a constant hacking cough with purulent expectoration. One sister had died from tuberculosis, while the patient herself had been subject to attacks of quinsy and had had her tonsils excised. She had also had some slight bronchitic attacks with a tendency to asthma as well as a slight attack of rheumatism in childhood. Her present illness commenced six weeks before admission with headache and nausea but no actual sickness. A few days later she developed a cough accompanied by sickness but no expectoration. The sickness had no definite relation to meals but seemed to follow the fits of coughing. The patient complained at the same time of "a nasty taste in her mouth." There was no dysphagia. The cough with sickness lasted for about three weeks, but during that time there was very little expectoration. Three weeks from the onset of the first symptoms the cough began to be accompanied by a yellow and offensive expectoration. She was

accordingly treated by Dr. Alexander Davidson with creasote and benzoin inhalations but no improvement occurred. The cough persisted and the expectoration continued of the same offensive character. She was therefore sent to the hospital for admission.

The patient was found to be a well-developed, healthy-looking girl but had a somewhat anxious and distressed aspect. There was a constant hacking cough, causing great pain, especially referred to the lower part of the sternum. The cough was accompanied by the expectoration of a large quantity of yellow, purulent, offensive sputum. There was no pain on deep inspiration but a catching sensation was experienced over the lower portion of the sternum. There were no definite physical signs in the chest except a few rhonchi in the right mammary region. No dulness could be detected though frequent examinations were made for the purpose of detecting some localised empyema or abscess cavity. The breathing was rapid—30 per minute—and thoracic in type. The urine had a specific gravity of 1030 and contained a small quantity of albumin; there was a large deposit of brick-red urates; there was no sugar or blood.

The constant hacking cough continued unabated and greatly interfered with the patient's rest at night; she slept very badly and sometimes hardly at all. The temperature on the day of admission was 101·6° F.; it rose two days later to 103·6°, but dropped next day to 102·8°. On the following morning, four days after admission, a few rhonchi were heard over the right base, and those in the right mammary region were more abundant. Still no dulness could be detected, but there appeared some diminution of breath sounds above the angle of the right scapula. The expectoration was still abundant and was now of a brownish colour, very offensive and containing a large quantity of pus streaked with blood. On Nov. 17th, five days after admission, the right side of the chest was explored below the angle of the scapula but no fluid was found. The patient continued *in statu quo* for the next few days, and as the symptoms did not improve and her general condition seemed to get worse on Nov. 21st the right chest was again explored, this time in front, in the mammary region. A little blood-stained fluid was obtained but not sufficient to indicate the presence of pleural effusion. She still complained of pain in the lower part of the sternum on coughing; her cough became even more troublesome and she had very little sleep at night. The expectoration continued abundant, of a yellowish-brown colour, with a good deal of whitish froth, and having the same offensive character. There were still some diminished breath sounds close to the angle of the scapula and impairment of the percussion note at the extreme right base; the rhonchi had now almost completely disappeared. There was continuous pyrexia, varying between 100° and 101·2°, and gradually rising until Nov. 25th, when the temperature reached 103°. On the 26th the right base was again explored in the ninth space below the angle of the scapula, but again with a negative result. On the 28th the patient did not appear to be nearly so well; the pulse was rapid though the temperature had slightly fallen and was now 101°. She had relapsed into a weak asthenic condition; the cough continued to be extremely troublesome, with accompanying pain in the right chest, most marked above the right costal margin. There was still abundant, thick, yellowish, frothy, offensive expectoration and there was also a distinct *halitus ex ore*, while the patient herself still complained of a "nasty taste in the mouth." The sleep continued to be much disturbed by the continuous coughing. Moist râles were now distinctly audible at the right base, indicating a pneumonic condition. She got steadily worse and it was considered advisable to transfer her to the surgical side of the hospital, where an operation was accordingly performed by Mr. A. B. Barrow with a view of discovering a localised empyema or abscess cavity but without success; a drainage tube was introduced into the wound. The patient gradually sank and died on Nov. 30th at 1 A.M.

Necropsy.—At the post-mortem examination an opening of the size of a No. 8 catheter was found in the anterior wall of the œsophagus. The opening was quite round, with smooth edges, and was situated at the level of the bifurcation of the trachea and led into an abscess cavity in the mediastinum. This cavity was of about the size of a hen's egg and lay behind the end of the trachea and the two bronchi. Its walls were ragged and grey and it exuded a gangrenous odour; in the cavity there lay a large greyish-white mass of varying consistency, soft in some places and harder in others. It appeared to form a kind of cone composed partly of necrotic tissue and partly of old fibrin. In the right bronchus, about one inch from the bifurcation, there was an aperture which led into the gangrenous cavity above described. The edges of this opening gave way on being touched, so that its exact size could not be estimated. The right bronchus and its branches were acutely inflamed and were filled with pus and the lower lobe of the right lung was solid and showed abundant large yellowish-red areas which would soon have suppurated; there was, in fact, a condition of insufflation pneumonia. The right pleura was covered with lymph and a drainage-tube was found there. There was no effusion in the pleural cavity, serous or purulent, nor yet between the lobes of the right lung. On the inner side of the upper lobe of the right lung, however—that is, next to the mediastinum and above the right bronchus—there was found a localised collection of serum and lymph. The trachea and the bronchial tubes of the left lung were inflamed but the lung itself was not pneumonic. There was some adhesion on the mediastinal side of the pleura but there was no evidence of recent pleurisy. There was no foreign body found in the gangrenous cavity and the cause of the œsophageal perforation remained undiscovered.

MEXBOROUGH COTTAGE HOSPITAL.

A CASE OF COMPOUND, COMPLICATED, COMMINUTED FRACTURE OF THE PELVIS; WIRING; RECOVERY.

(Under the care of Mr. J. J. HUEY and Dr. B. CROSSFIELD STEVENS.)

THE most frequent cause of fracture of the pelvis is a "buffer" accident, when a man is caught between the buffers of two railway trucks, and the injury described below appears to have been inflicted somewhat similarly. In cases of fractured pelvis in which there is already a wound leading down to the fracture wiring is distinctly indicated. Mr. W. H. Battle[1] has published a similar though less severe case in which wiring was successfully performed.

On April 10th of this year a boy, aged 14 years, was admitted into the Mexborough Cottage Hospital suffering from a severe injury to the left side of the pelvis. He was examined and was placed under the care of Mr. Huey, who asked Dr. Stevens to see the patient with him. It was stated that the boy was carrying lamps in a coalpit and was walking on the level just behind some "tubs" filled with coal which were being drawn by horses. Other "tubs" were coming down an incline behind him. The driver of the latter, thinking that the "wedges" were in position, unhitched the horses with the result that two of the loaded "tubs," becoming detached, rushed down the incline, caught the boy, and knocked him on to the "tubs" in front. These moving on he fell to the ground and remembered nothing more.

When Dr. Stevens saw the patient on admission there was not a great amount of shock or collapse but a good deal of pain and tenderness were present over the groin, the hip, and the flank. There was an incised wound three inches long in the left groin, just missing the external iliac artery but laying open the inguinal canal. The anterior third of the iliac crest was felt to be loose and another sharp piece of bone was threatening the skin, a blister having formed at the point of tension. On further examination with one finger in the wound the whole of the left side of the pelvis seemed to be altered and some serous fluid escaped. The sartorius muscle was torn across but the pelvic viscera were intact. It was decided to explore further under an anæsthetic.

Under chloroform the incision was extended up to a point where the anterior superior spine would normally have been. It was then found that the fracture involved the true pelvis. The hip-joint was disorganised and the pubic ramus was quite loose. The head of the femur was *in situ*. From deep down in the pelvis a loose square-shaped piece of bone was hooked up by the finger and brought into contact with another piece of the ilium and was wired with stout copper wire to another similarly shaped piece of loose bone. Another sharp triangular piece of bone was removed. The

[1] Transactions of the Clinical Society of London, vol. xxvii., p. 289

piece of bone in the true pelvis was dangerously near wounding the bladder and the iliac vessels until it was brought up and fixed in the ilium. The sartorius muscle was repaired with catgut and a fresh origin was made for it by uniting it to the insertions of the abdominal wall muscles on to the iliac crest. The psoas muscle was not damaged. The wound was thoroughly irrigated with biniodide lotion, the inguinal canal was made secure, and the skin was sewn up with a continuous catgut suture. A gauze drain was left in for 24 hours.

The boy stood the operation well and the gauze was taken out on the next day. The temperature kept rather high for the next 12 days, this being due mostly to a bronchopneumonia. The inguinal part of the incision healed but the upper part suppurated superficially chiefly from exuberant granulations all through May and then a spicule of bone came away.

Remarks by Dr. STEVENS.—The wound is now healed and a poroplastic pelvis and thigh splint is being worn. There is good flexion of the joint and the patient can now walk a little way with all his weight on the pelvis. It is yet early to say whether he will be able to work again but the prospects are good. I should certainly recommend the expediency of wiring the fragments of a badly fractured pelvis. It is remarkable that with such a smash the pelvic viscera were uninjured. I am indebted to Mr. Huey for allowing me to publish this case.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

The Bowman Lecture.

THE following is an abstract of the Bowman Lecture delivered before the Ophthalmological Society on June 13th by Professor ERNST FUCHS of Vienna. The lecture was illustrated by numerous drawings.

Bowman's name, said Professor Fuchs, would be for ever connected with the development of anatomy, physiology, and ophthalmology, and as far as the eye was concerned Bowman's membrane and Bowman's tubes would perpetuate for all time his name in the memory of the student of medicine. In discussing keratitis the lecturer declared his intention of confining himself to the consideration of recent disease, showing what anatomical changes corresponded with visible signs, such as opacity, loss of brilliancy, &c. The transparency of the cornea allowed a closer comparison between clinical and microscopical appearances in this than in any other structure, especially with the aid of a lens or corneal microscope. Diffuse opacity would be found to correspond with an infinite number of minute grey points representing swollen corneal corpuscles, aggregated lymph cells beside them, or accumulations of corneal corpuscles in lymph spaces. The surface from being smooth and brilliant became dull and stippled at the slightest disturbance of underlying tissues corresponding with a change in the epithelial layer. In the normal structure the nutrition of the epithelial layer was provided for by osmosis from the corneal tissue through Bowman's membrane, and the regeneration of cells by division of the basement and middle layers. In health this was slow, as evidenced by the scarcity of dividing nuclei. On account of the exposed position of the corneal epithelium its pliant, delicate nature, and its loose attachment to subjacent structures, abrasions were common, and rapid and extensive exfoliation took place in inflammation. Its vitality was further lowered by the low temperature resulting from surface evaporation and its dependence for nutrition on non-vascular tissues. Its sensibility was its chief defence and the integrity of the epithelium was the chief defensive agent against the intrusion of microbes. The close and persistent growth of these surface cells tended to level all irregularities, producing a thicker layer where there was loss of substance and a thinner one over any protrusion. This was illustrated by drawings, as was also the rapid development of these cells preventing direct union of the tissues after a cataract extraction of four days' standing, having already penetrated the wound as far as Descemet's membrane. A drawing was shown illustrating a still further development in which the superficial corneal epithelium had penetrated to and lined the entire anterior chamber, covering both the iris and back of the cornea; this drawing was from a cataract extraction of several years' standing. This condition practically represented cyst of the anterior chamber; the tension was raised. Four such cases had come under the lecturer's observation and he suggested that this might be the explanation of increased tension after cataract extraction where there was no other cause of glaucoma. There also occurred small epithelial cysts in the root of the iris continuous with the surface epithelium and representing the blind end of its invagination. These would in time develop into iris cysts and were, except in distribution, analogous to the chamber cyst just mentioned. Cysts of the iris occurring after penetrating wounds were always due to this kind of intrusion of the external epithelium. Another instance of this intruding tendency was furnished by cases of old leucoma; in such cicatricial tissue there often occurred calcareous deposits which consolidated into calcareous plates. These, at first intimately connected with the contiguous tissue, presently separated from it by shrinkage and lay in it like a foreign body. A drawing showed the surface epithelium penetrating to this space, surrounding the plate, and effecting its separation. Another drawing showed the process nearly complete, the epithelium on the outer aspect having necrosed, while on the deep surface it separated the mass from the living connective tissue, thus at the same time protecting the eye from external agencies by a continuous epithelial layer. The vital energy of this epithelium was greater at the periphery in proximity to the nutrient vessels. When uniformly affected it was speedily thrown off in the centre but grew exuberantly at the margin, as in kerato-malacia and neuro-paralytic keratitis, and most strikingly in marginal ulcers where the epithelium was seen to push quickly towards the bottom of the ulcer peripherally, whereas the central margin remained bare and infiltrated. On this account many ulcers tended to progress towards the centre but not towards the margin as in fascicular keratitis. Disturbance showed itself by dulness (unevenness) or haziness (opacity) of the epithelium; where the epithelium was raised in places the small vesicles appeared black if the subjacent cornea was clear. The opacity was due to abnormal fluid either between or within the cells. It commonly occurred between the cells in glaucoma (œdema of epithelial layer), separating first the basement and then the superficial cells, and might form vesicles. A figure from Grieff showed this and swelling of cells from imbibition of fluid. The cells might burst and leave depressions while the swollen ones projected, thus producing an uneven surface. The stippled appearance in glaucoma, irido-cyclitis, and interstitial keratitis was thus accounted for. The entire layer might be affected, producing a homogeneous mass which separated. Absorption occurred quickly, even within 30 minutes, under eserine. The superficial cells separated and fell off. In neuro-paralytic keratitis the desquamation was specially rapid, being due largely to exsiccation, but it occurred from nerve changes in man where this was prevented. The change occurred principally in the centre while there was proliferation at the margin, the cornea being left uneven with a stippled appearance. Only the basement layer might be left and the cells altered in shape, being long, short, or oblique, or the loss might be total, as in conjunctivitis and inflammation of other mucous membranes (desquamative catarrh). This condition endangered the cornea by facilitating the entrance of micro-organisms and conjunctival disease was often followed by corneal disorder. Change in the epithelium was the cause of such disorders of vision as coloured halos round lights, as in glaucoma and cocaine instillation, especially where this had been long continued or the eye had been left exposed. The epithelium became opaque and dull and desquamated. The lecturer never entrusted patients with cocaine, particularly when suffering from keratitis. Thinning of the epithelial layer occurred from pressure of the lid, the surface remaining smooth, as it did in atrophy from insufficient nutrition, the number and size of the cells being diminished. Where calcareous deposits occurred in corneal cicatrices bacteria might invade the cornea, causing necrosis. This was the explanation of the rapidly destructive ulcers in old leucomas (atheromatous ulcer, sequestering cicatricial keratitis) resulting in perforation and panophthalmitis. This might also occur from within, as in corneal degeneration. Local areas of the kind resulted from irritation or might develop after cataract extraction, producing inflammatory areas with lymph cells

which might ulcerate or disappear. Exsiccation if superficial produced opacity if deep xerotic keratitis. To sum up the causes of these superficial changes, they might be due to conjunctival disease causing damage by secretion —e.g., gonorrhœal ophthalmia; deeper tissues as in glaucoma, irido-cyclitis, panophthalmitis, through alterations in pressure, circulation, and quality of lymph; or degenerative changes in the cornea which varied much with the stage and malignancy of the pathological process. The dotted appearance in keratitis as seen with a lens differed from the haziness due to changes in the media or deposit of fibrin at the back of the cornea which always appeared uniform, this appearance in the cornea being only produced by the imbibition of fluid. Striated keratitis was due to swelling (after cataract extraction) producing folds at the posterior surface of the cornea. Swollen tissue on the surface might be clear and free from ulceration though necrotic. The bluish swelling in newly-born children and in glaucoma were probably due to imbibition. The slow changes in old men (after 60 years of age), senile sclerosis, which produced ultimate blindness, were due to abnormal liquid in the cornea which impeded the lymph flow. It was probably due to a change in the general nutrition or to increased permeation of the aqueous humour into the cornea. A change in the epithelium was superadded and the slow affection of both eyes suggested some general agent. A uniform infiltration of the cornea with lymph cells produced a uniform opacity. An injurious agent in the aqueous humour, as in commencing panophthalmitis or irido-cyclitis, caused increased circulation at the margin, two currents of lymph cells emanating from the vessels of the limbus and the anterior ciliary vessels which resulted in an annular thickening. The entire cornea might be affected from a wound or ulcer, the change clearing up, concentrating, or becoming marginal. In the latter case a ring-shaped thickening due to infiltration 1·5 millimetres in width and about this distance from the limbus occurred, and was a rare consequence of ulcer or panophthalmitis.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Copper Test for Sugar in Urine.—Nerve Regeneration.—Jejunal Fistula.—Exhibition of Cases and Specimens.

A MEETING of this society was held on July 2nd, Sir THOMAS R. FRASER, the President, being in the chair.

Dr. T. S. CLOUSTON, in the name of the members present, congratulated the President on the honour of knighthood which had been conferred on him by the King.—A letter from Professor Huchard of Paris was read, thanking the society for his election as a corresponding member.

Dr. F. D. BOYD read a paper on the Fallacies of the Copper Reduction Test for Sugar in the Urine. It dealt with the substances apart from glucose which though they might have no known pathological significance yet had the power, on the application of Trommer's or Fehling's test, of dissolving copper hydroxide and subsequently reducing it on the application of heat with the formation of the red suboxide. A number of such urines had come under notice. In making the observation two cubic centimetres of Fehling's solution were taken as an average quantity used in the routine application of the test and titrated with a solution of the different substances of known strength. Of those substances the most important were the glycuronic compounds which might appear in the urine in apparent health after the administration of drugs and in infectious conditions. They could be estimated by the benzoyl-chloride method; for recognition of their presence in small quantities the phenyl-hydrazin-bromide test and the orcin and phloroglucin tests were used. The importance of the recognition of the glycuronic compounds was illustrated by the case of a middle-aged man who was desirous of increasing his life assurance policy, but when examined he was at first rejected on the supposition that his urine contained sugar. On subsequent more careful examination the urine was found to be clear and of a normal specific gravity with the copper and bismuth tests there was decide. eduction, but the fermentation test was negative and no crystallised osazon was obtained with phenyl-hydrazin. The copper reduction was therefore due not to sugar but to a glycuronic compound. The life was accepted for insurance and the applicant was still, after eight years, in excellent health. Creatinin had not a powerful copper-reducing effect. It required 0·07 gramme creatinin to have an appreciable effect in reducing two cubic centimetres of Fehling's solution. 1·5 cubic centimetres of urine contained normally about 0·0001 gramme creatinin. It was therefore concluded that creatinin could be neglected. With uric acid 0·017 gramme gave a decided reduction in two cubic centimetres of Fehling's solution, while 0·03 gramme gave complete reduction. Normally 1·5 cubic centimetres of urine would contain less than 0·0001 gramme uric acid—a quantity too small to produce any appreciable reduction in two cubic centimetres of Fehling's solution. Uric acid could therefore be neglected as a fallacy of the copper reduction test unless present in excessive amount in a highly concentrated urine and even then the fallacy was improbable. Alkaptonuria was next referred to, a condition due to the presence of pyrocatechin, uroleucic, and homogentisic acids, and the allied condition carboluria. The occurrence of alkaptonuria was of importance not so much from any pathological significance which it was known to possess as from its liability to be mistaken for glycosuria from its decided copper-reducing power. Pyrocatechin was found to have an active influence upon Fehling's solution. If two cubic centimetres of Fehling's solution were treated with 0·01 gramme pyrocatechin a deep green colour resulted, while 0·02 gramme gave a porter colour with distinct copper reduction. Hydrochinon, which appeared in the urine as an ethereal sulphate, showed a deep brown colour with Fehling's solution; 0·00125 gramme gave a distinct reduction. Dr. Boyd said that liability to error would be greatly diminished if the tests were made at a temperature below the boiling-point. Glucose gave reduction below the boiling-point, while the other substances gave no distinct reduction; and if doubt remained the phenyl-hydrazin, the phenyl-hydrazin-bromide, and the fermentation tests provided easy means of distinguishing the reducing body.

Dr. R. A. FLEMING read a paper entitled, "On the Peripheral Theory of Nerve Regeneration, with special reference to Peripheral Neuritis." He said that there were two theories of the nerve regeneration which took place when a peripheral nerve was divided. According to the central theory the peripheral end could only regenerate by the central axis cylinders growing down into it; while according to the peripheral theory regeneration could and did occur in the peripheral end even when reunion of the two ends never occurred. The central theory was the old theory almost universally held until quite recently. The peripheral theory of regeneration was by no means of recent inception but the work of Kennedy, and more recently of Mr. C. A. Ballance and Dr. Purves Stewart, had done much to direct attention to it in this country. Dr. Fleming demonstrated "neuroblastic" regeneration in the peripheral ends of rabbits' nerves at various periods after complete division and referred to the value of Stroebe's method of staining axis cylinders. He adhered to the belief that the central axis cylinders were not purely passive agents in the work of regeneration of a nerve after division and stated various facts which appeared to him to point to the probability of this combination of the central and peripheral theories of regeneration being correct. The evidence obtained from a study of a number of amputation neuromata appeared to support this view. He then referred to four cases of peripheral alcoholic neuritis in all of which regeneration had occurred in some of the affected nerves. The fact that the neurilemma nuclei appeared to have a trophic influence towards the portion of axis cylinder between the two nodes of Ranvier suggested that the neurilemma cells might act as neuroblasts even without considering the much stronger and more logical evidence from embryology. This trophic function of neurilemma Dr. Fleming described some years ago. "Neuroblastic" regeneration was probably not an obvious process in normal nerves; for the truth of this statement Dr. Fleming deduced evidence from the examination of nerves in a small number of cases presumably healthy so far as the nervous system was concerned. There was no regeneration similar to that seen in the four cases of peripheral neuritis described. "Neuroblastic" regeneration was nature's attempt at repairing the damaged nerve-fibres in peripheral neuritis and it seemed to be the only possible explanation of recovery in a severe case of the disease in which long areas of nerve-fibres had

suffered. Dr. Fleming suggested that the peripheral axis cylinders were probably of epiblastic origin.

Dr. HENRY M. CHURCH read a paper on a case of Jejunal Fistula. He said that although many cases of intestinal fistulæ had been recorded few were associated with the jejunum. Mr. Golding-Bird's case, published in the Transactions of the Clinical Society in November, 1885, was then shortly described. This patient lived only nine days after the operation. His food was passed directly into the jejunum and on several occasions he suffered from severe attacks of indigestion which followed a fluid meal of from 15 to 20 fluid ounces. These attacks only ceased on diminishing the quantity of food injected. In the following case food was administered solely by the mouth, some of it being discharged by the jejunal fistula and giving the patient great distress, while some of it passed on into the bowel. The patient was a woman, aged 46 years, who underwent operation for acute obstruction of the bowel in 1884 and died in 1892. During this time she had a fistula in connexion with the upper part of the bowel and suffered great misery from this, and especially from the digestive action on the skin due to the constant outflow of pancreatic and biliary secretions. The fluid which issued from the fistula was generally clear, like water and odourless, but not of the slimy, syrupy character ascribed to the pancreatic secretion. Occasionally, there was a flow of green bile which, like the other, caused a burning pain about the wound. Over a large area round about there was acute inflammation of the skin. The position of the opening a little above the umbilicus, together with the character and time of the discharge, seemed to locate it as jejunal. Morphia was of the greatest value to this patient, it dried up her wound, raised her spirits, and induced sleep. Even when it did not dry up the wound it seemed not only to diminish sensibility but actually to deprive the pancreatic discharge of its irritating properties, as evidenced by its diminished action on the skin. In large or even in moderate doses it lessened peristalsis and caused constipation. It also inhibited salivary and pancreatic section and induced great dryness of the mouth. She feared to drink water to allay the thirst knowing the painful consequence of the increased gastric and intestinal flow which ensued. This seemed to point to the probability of water not being absorbed in the stomach. Headache was generally relieved by taking from three to five grains of citrate of caffeine. This drug always greatly increased the flow from the fistula as well as the salivary secretion. In most points caffeine seemed antagonistic to morphia. In whatever form given alcohol always increased the flow and irritated the wound and also stimulated the salivary secretion. In small doses rhubarb always stopped the discharge for from three to four hours, and then the drug came away through the wound and could be both seen and smelt. It irritated the wound much and this was probably due to the chrysophanic acid in the rhubarb. However, the drug improved both the appetite and the general condition of the patient. Rhubarb was a sialogogue and so it was difficult to understand how it dried up the wound for so many hours, for with the exception of this drug it was always noticed that any stimulant of salivary secretion was invariably associated with an increase of discharge from the fistula. Before reaching the wound the powerfully astringent influence of the rheotannic acid must have come into play. Castor oil was often taken as an aperient but a large proportion of it emerged from the fistula in from one and a half to two hours. It was quite unirritating to the wound but increased the flow from it. This was the only aperient which did not give pain to the wound. The stools always indicated that all the digestive ferments had been at work. Enemata had always the effect of increasing the flow from the fistula for many hours and if castor oil were added to the enema globules of oil were seen to emerge copiously from the fistula some hours afterwards. There seemed to be a complete antiperistalsis on these occasions. Emotion always increased the flow from the wound as also did cold weather. As regards food years of observation showed that foods rich in proteid substances were best suited to her. For years white meat pounded to a cream and mixed with bread crumbs was administered warm from every three to four hours. Vegetable diet always occasioned pain and however cooked was undigested and came through the fistula with a specially hot and painful discharge which caused not only the margins of the wound but also the surrounding skin to bleed. The only agent which relieved the irritation of the skin was tannic acid frequently applied in weak solution and as an ointment.

Dr. CHALMERS WATSON showed a girl, aged nine years, who had suffered from Lupus on the Left Cheek for the past four or five years. There was a pronounced family history of tuberculosis. The treatment consisted in the local application of a product of bone-marrow (myelocine). After the crusts had been bathed off this was applied daily (since May 23rd). Already there was a distinct improvement in the condition and the patch was beginning to scale as happens in the "light" treatment of this disease.

Mr. ROBERT PURVES showed a case in which the Femoral Artery had been Ruptured by Constriction of the Thigh by a Running Rope, the torn end of the artery being sealed by natural method of arrest of hæmorrhage.

Mr. ALEXIS THOMSON showed a Depressed Fracture of the Skull sustained 20 years before death.

Reviews and Notices of Books.

An Introduction to the Bacteriological Examination of Water. By W. H. HORROCKS, M.B., B.Sc. Lond. London: J. & A. Churchill. 1901. Pp. 300. Price 10*s.* 6*d.*

IN this work Dr. Horrocks has made a very valuable contribution to our knowledge not only of water bacteria in general but also of pathogenic bacteria which gain access to water-supplies in particular. His views as to the most efficient methods of conducting the bacteriological examination of water are based on practical researches. In this direction his own experiments at Netley relating to the duration of life of the typhoid bacillus in water and sewage are of the greatest importance and interest. Taking these researches in conjunction with those of other workers it seems extremely probable, he says, that under natural conditions comparatively few typhoid bacilli will gain access to a water-supply, and in order to detect them it will be necessary to examine a considerable quantity of the water. Unless the specific pollution is continuous it is extremely unlikely that typhoid bacilli will be detected in a water-supply if more than a week has elapsed since the actual pollution has occurred. This view had considerable support in the circumstances of the outbreak of typhoid fever at Maidstone. Ten days after the specific infection had taken place a bacteriological examination of the infected water failed to find the typhoid bacillus, though the presence of the bacillus coli showed that sewage contamination had occurred. It will be remembered that in the case of Worthing it was thought that the typhoid bacillus had been identified, but Dr. Horrocks states that the tests given then as indicating the presence of the typhoid bacillus would be considered at the present day as quite insufficient to establish the diagnosis of this specific organism, consequently, he adds, the Worthing epidemic must be relegated to the large class of cases in which there is still a doubt as to the presence of the bacillus typhosus in the water-supply. He next asks the question whether, apart from the isolation of the bacillus typhosus, there are any means of diagnosing pollution of a water-supply by the specific dejecta of cases of enteric fever. To some extent, as he shows, there are, for in some experiments which he made the varieties of the bacillus coli isolated from typhoid dejecta proved to show much greater sensibility to agglutination than did the varieties of the bacillus coli found in normal stools. Therefore, if cultures of the bacillus isolated from suspected water-supplies are found to come within the typhoid range of agglutination there is some reason for assuming that the water-supply in question has been polluted with typhoid dejecta. This is but one example of Dr. Horrock's earnest attempt to place the bacteriological examination of water upon a satisfactory basis and in other chapters he indicates the value of other organisms as a sign of sewage

contamination. He, with others, has carefully studied the bacteriflora of sewage sufficiently to enable certain bacteria to be classed as normal inhabitants of sewage. The book is valuable, therefore, as being largely the outcome of a series of his own painstaking researches the results of which are of the utmost importance and should prove of extreme service to the water bacteriologist.

Encyclopædia Medica. Under the general editorship of D. CHALMERS WATSON, M.B., F.R.C.P. Edin. Vol. X.: Pregnancy to Scarlet Fever. Edinburgh: William Green and Sons. 1902. Pp. 516. Price 20*s.*

THE subject of pregnancy, which was commenced in the preceding volume, is concluded in the present one. Under the heading "Pathology of Pregnancy" are several contributions. Dr. W. E. Fothergill (Manchester) writes on the Affections of the Ovum and Decidua and Dr. T. W. Eden (London) on Diseases of the Placenta and Cord. Then follow three papers on affections and accidental complications—Affections of the Generative Organs, by Dr. W. Stephenson (Aberdeen); Systemic Disturbances, by Dr. John Phillips (London); and Death during Pregnancy, by Dr. W. E. Frost (Edinburgh); and, finally, Dr. Henry Jellett (late Master of the Rotunda Hospital, Dublin) writes on Hæmorrhage associated with Pregnancy. It will thus be seen that the whole subject of pregnancy is considered most thoroughly and from every point of view. An immense amount of information is contained in the pages devoted to the matters above mentioned which will prove most useful for reference by the medical practitioner.

An elaborate account is also given of the Puerperium. The physiology of that period is considered by Dr. A. E. Giles (London). The changes in the maternal system are first described and then directions are given as to the management of the patient up to the time of complete convalescence. The pathological section is split up into five divisions. Dr. W. J. Smyly (late Master of the Rotunda Hospital, Dublin) writes on Puerperal Infection. He gives an interesting *résumé* of the bacteriology of the condition, laying particular stress on the germicidal powers of the vagina. The author concludes that the vagina contains germs which are harmless under normal conditions but which may sometimes become dangerous in the presence of dead matter or tissue the vitality of which has been reduced by crushing and bruising in prolonged and difficult labours, and which may also be productive of harm if carried upwards into the uterus. The remarks on Affections of the Breasts and Nipples are by Dr. J. Haig Ferguson (Edinburgh) and those on Constipation and other Disorders by Dr. W. Fordyce (Edinburgh). The subject of Puerperal Insanity is dealt with by Dr. G. R. Wilson (Edinburgh); the clinical varieties are particularly well described. Finally, Dr. Smyly describes the condition known as "Sarcoma Deciduo-cellulare" or "Deciduoma Malignum."

The article on the Pulse by Dr. H. Oliphant Nicholson (Edinburgh) affords interesting reading. The use of the sphygmograph is minutely described, but we cannot agree with the author in his statement that the only accurate method of recording the pulse is by means of that instrument. It is true that as a means of procuring records its value is very great, but we believe that most physicians would prefer to trust to the sensations transferred to the fingers by actually feeling the pulse rather than to an examination of a sphygmogram. For theoretical purposes the sphygmograph is of the utmost use but we are doubtful if the same worth can be attached to it for clinical work.

Another contribution worthy of notice is that on Diseases of the Rectum, by Mr. H. W. Allingham (London). We may especially draw attention to his remarks on hæmorrhoids. The operative procedures are fully described and stress is laid on the after-treatment and the complications that may follow operation for hæmorrhoids.

Those practitioners who interest themselves in ophthalmic work will find a large amount of information in the article on the Retina and Optic Nerve by Mr. R. Marcus Gunn (London). A full account is given of inflammation and atrophy of the nerve, the injuries to which it is liable, and the tumours with which it may be affected. The diseases of the retina are also considered, the various forms of retinitis being ably described.

The subject of Acute Rheumatism receives its due amount of notice from Dr. F. J. Poynton (London). He acknowledges rheumatic fever to be an infective disease, but as the result of his researches in association with Dr. Alexander Paine (London), he believes that one and not several different bacteria will prove to be the true excitant of the disease. Although there are strong reasons for believing the cause of rheumatic fever to be an infection with a diplococcus, which has been isolated by several observers, this can only explain one factor in the disease—the exciting cause. As Dr. Poynton remarks, the peculiar poisons that are formed and the peculiar vital chemistry of the human tissues are as yet unknown. The article on Chronic Rheumatism is by the editor (Dr. Chalmers Watson), and that on Rheumatoid Arthritis by Dr. Julia Cock (London), who publishes some good reproductions of photographs illustrating the joint affections and discusses the pathology in a full and interesting manner.

Amongst other contributions to this volume we may mention the following: Psoriasis, by Dr. H. Radcliffe Crocker (London); Puberty, by Dr. Garrett Anderson (London); Quarantine, by Dr. W. Collingridge (London); Raynaud's Disease, by Dr. J. Purves Stewart (London); and Rickets, by Dr. H. Ashby (Manchester).

A Practical Treatise on Small-pox. Illustrated by Coloured Photographs from Life. By GEORGE HENRY FOX, A.M., M.D., Consulting Dermatologist to the Health Department of New York City; with the collaboration of S. D. HUBBARD, M.D., S. POLLITZER, M.D., and J. H. HUDDLESTON, M.D. Complete in two parts. Part I., with three Plates and eight Coloured Plates, containing 19 Illustrations. Pp. 14. Part II., with three Plates and eight Coloured Plates, containing 24 Illustrations. Pp. 17. London and Philadelphia: J. B. Lippincott Company. 1902. Price 12*s.* net.

THIS work is very conveniently adapted for practical use in the out-patient room or at the bedside. The parts are in paper covers and are unstitched, the plates being loose. The importance of the work lies in the illustrations. These are of varying degrees of merit. Some are excellent, such as most of those depicting cases of small-pox in the pustular stage. From them may be gathered a very true conception of the appearance presented by most cases of small-pox in that stage of the disease. Others of the plates are not so satisfactory. In some instances this is due to faults of reproduction. But in most it arises from the difficulty of obtaining in a photograph results which are due not so much to light and shade as to very delicate effects of colour. We suppose, for instance, that the illustrations of small-pox erythema, of hæmorrhagic small-pox, and of the papular eruption would be of very little assistance to a novice in making a diagnosis. Unfortunately, those types of small-pox and stages of the disease which present most difficulty in diagnosis are the most difficult to illustrate satisfactorily. We think, however, that something further might have been accomplished by a better selection of cases and points to be illustrated and by a more systematic attempt to represent the essential peculiarities

of the disease. One illustration only is given of chicken-pox, for instance. This is from a photograph of the back of the patient's trunk. But the selection of this part of the body makes it impossible for the illustration to convey any information as to the general distribution of the eruption over the surface, while the scale of the picture and its lack of definition prevent any idea being gleaned as to the character of the lesions themselves. The illustration, in fact, would represent equally well a mild case of small-pox. Some of the illustrations depicting the condition of the skin in the later stages of small-pox are praiseworthy. One of these, showing the inspissated pustules left in the soles of the feet, is of real value.

The letterpress is disappointing. It consists of a systematic account of the clinical features, diagnosis, and treatment of small-pox, without special reference to the illustrations. The chapter on Diagnosis, to which the reader naturally turns, makes little attempt to set out the principles on which the diagnosis depends. The author contents himself with a perfunctory *résumé* of the clinical differences between small-pox and the various diseases for which it is liable to be mistaken. The accuracy of some of the statements made is open to question.

Manual of Military Ophthalmology for the Use of Medical Officers of the Home, Indian, and Colonial Services. By M. T. YARR, F.R.C.S. Irel., Major Royal Army Medical Corps. London: Cassell and Company, Limited. 1902. Small 8vo, pp. 236.

THE book, of course, follows the lines adopted by the authors of most modern manuals, the optical properties of the eye, the methods of testing the sharpness of vision, a description of the ophthalmoscope, and a consideration of errors of refraction occupying the first part; then follow an account of strabismus, the characters and treatment of the diseases of the eye most commonly met with in soldiers, gonorrhœal, syphilitic, malarial, and non-malarial affections, trachoma, injuries of the eye, sympathetic ophthalmia, glaucoma, and cataract, and the work concludes with a chapter on Cataract. The above enumeration of the subjects which Major Yarr discusses will give an idea of what he has thought it expedient for the young military surgeon to know well at the beginning of his career and what he may safely omit, or at least learn from later experience. A knowledge of refraction is necessary and stress is rightly laid upon it, because irremediable defects of vision necessarily exclude the admission of the recruit or the officer into the service. The present arbitrary limits determined by letters and dots or other tests are absurd. Many a good man has been rejected who in the armies of the continent would have been unhesitatingly accepted, and we agree with Major Yarr when he says: "The time is bound to come when the English, like the foreign, soldier will be permitted to wear glasses, and then comparatively high errors of refraction, if unaccompanied by disease, can be passed." That time has, indeed, already come, for a Regulation in the Army Orders, issued by the War Office on March 1st, 1902, and noticed in our columns,[1] gives permission to wear spectacles to both officers and men. The several sections of this little treatise are written with much perspicacity and intelligence, especially those dealing with injuries to the eye from gunshot wounds and from the entrance of foreign bodies into the eye. Such injuries are rare even in long wars. In the American War of Rebellion only 1190 cases of gunshot wounds of the eye occurred in 408,072 cases of wounds of the body generally. It will be interesting to know the proportion of wounds of the eye to general wounds in the recent war when its medical history comes to be written. The appendix contains the vision regulations of the English army compared with those of other armies. Major Yarr's book will prove useful and instructive to every army surgeon.

[1] THE LANCET, March 29th, 1902, p. 905.

LIBRARY TABLE.

Agricultural Bacteriology: A Study of the Relation of Bacteria to Agriculture. By H. W. CONN, Ph.D., Professor of Biology, Wesleyan University. London: Rebman, Limited. 1901. Illustrated. Pp. 412. Price 11s. net.—The present work strikes out a somewhat new line of instruction in bacteriology. The class of readers for whom the book is written is not indicated by the author, but, from the absence of technicalities and the somewhat popular form of the information—popular, however, in the best sense—it would appear to be intended for the agriculturist rather than for the bacteriologist. To the intelligent farmer it should prove very useful and it would be excellently adapted to the needs of the students who attend the recently established county council dairy farms and all who are interested in dairy produce, whether as producers, distributers, or consumers. After a very short account of the nature and classification of bacteria the author passes to the consideration of the bacteria of soil and water, with special reference to the fixation of nitrogen from the air and the processes of denitrification and oxidation. This rather difficult subject is dealt with very clearly and the limits of our knowledge are sharply distinguished from our more or less probable speculations. The work of Frankland and Warrington on nitrification is rather unduly neglected and there is a misleading misprint on page 90 of "oxygen" for "nitrogen." The root nodule organisms in leguminosæ are considered at length, as is the direct fixation of nitrogen by some species of soil bacteria. The relations of bacteria to milk, butter, and cheese occupy, as might be expected, a considerable section of the work, and the treatment of the subject is marked by common-sense, an appreciation of the relative importance of the various topics, and a critical examination of laboratory results in the light of practical experience. Throughout there is an appreciation of the farmer's point of view. We find a straightforward condemnation of all "preservatives" and on p. 214 an excellent and not utopian set of rules for the dairyman; if these were conformed to they would largely check the dissemination of disease. Pasteurisation is preferred unhesitatingly to sterilisation on practical grounds. Pasteurisation means, of course, centralisation of the dairy industry, but on commercial grounds there is a strong tendency in that direction. Apparently in the United States the use of an artificial "starter" for ripening cream for butter-making is common, though a pure culture is not invariably or even commonly used. The probable importance of enzymes in cheese-ripening and in ensilage is insisted upon, though the bacteria seem to be of chief importance in the production of characteristic flavours. The important question of tuberculosis and dairy products is considered in detail and with common-sense. Koch's recent views are, perhaps, remembering their unfortunate practical results, treated with too much consideration. The use and importance of tuberculin are pointed out, but practical instructions as to its use are wanting; this, however, belongs to the work of the veterinary surgeon and does not come within the scope of this book. At the end of each section there is usually a short epitome of the principal conclusions justified by the present state of our knowledge of the subject. This will prove of use to the reader, and the conclusions do not, as sometimes occurs in scientific papers, go beyond the warrant of previously stated facts. To all interested in agriculture

in its broadest sense this book may be strongly recommended.

The Elements of Mind: Being an Examination into the Nature of the First Division of the Elementary Substances of Life. By H. JAMYN BROOKS. London: Longmans, Green and Co. 1902. Pp. 312. Price 10*s.* 6*d.* net.—Mr. Brooks in his dedication of this book, which he calls a "work," says that its appearance is due to the kindly encouragement at a critical period of Professor William James and Dr. J. Beattie Crozier. There is much internal evidence to show that Mr. Brooks was pleased with his own "work," but it was mistaken kindness—if it were kindness at all—for his friends to encourage him to publish it. Mr. Brooks claims to have discovered the elements of Mind which he opines when compounded with those of Force and Matter constitute the mysterious substance which we call Life, he seems to claim to have discovered or invented the true Deity, and he does not accept the atomic theory. Of the making of such books there appears to be no end and much study of them is weariness to the flesh. It is also entirely unprofitable.

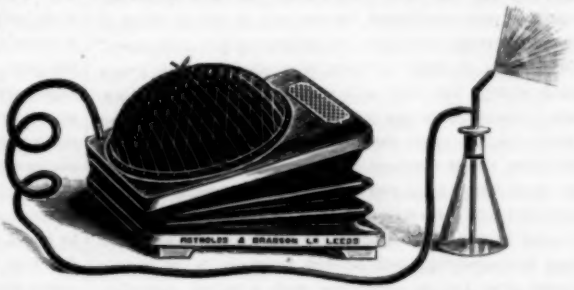
The Diagnosis of Nervous and Mental Diseases. By HOWELL T. PERSHING, M.D., Professor of Nervous and Mental Diseases in the University of Denver. London: Rebman, Limited. 1901. Illustrated. Pp. 223. Price 6*s.* net. — The object of this book is to facilitate the recognition nervous and mental diseases by physicians who are not specialists in those diseases. It cannot, of course, take the place of clinical instruction, but it is a useful compendium of diagnostic symptoms for the student's guidance. It deals in a clear and adequate way with the clinical examination of patients, with special reference to the nervous system—a point dealt with nowadays in nearly all textbooks. The principles of cerebral localisation and their application to diagnosis are next pointed out. Then follow in some detail descriptions of the signs of hysteria, hemiplegia, monoplegia, paraplegia, oculo-motor and facial paralyses, bulbar paralysis, ataxia, tremors, spasms, and contractures. The descriptions given are marked by conciseness and lucidity and the methods of differential diagnosis are very clearly indicated. Much information is condensed into these few chapters. Other chapters deal with optic neuritis, trophic and vasomotor disturbances, and the nature and distribution of pain in nervous disorders. The final portion of the work is devoted to disorders of speech and the diagnosis of the various forms of insanity. The work throughout is marked by clearness of description and real insight into the complex and difficult subject of diagnosis of nervous and mental diseases generally. It will undoubtedly be a helpful work to the practitioner and to senior students. The printing is clear and the text is remarkably free from errors.

On the Use of Roentgen Rays and other Radio-active Agencies in Surgery and Medicine. By G. M. LOWE, M.D., F.R.C.P. Edin.—This is a reprint of a paper read before the Nottingham Medico-Chirurgical Society. In it Dr. Lowe gives details of his method of working. For power he uses either two accumulators giving 12 volts and 26 ampères or else the current from the main at a pressure of 230 volts continuous current. He uses a 10-inch Watson coil and contact-breaker for accumulator work but with the current from the main he uses two of Cox's electrolytic breaks, apparently of the Mackenzie Davidson pattern. Some illustrations accompany the paper, one of which, a photographic print of a fractured humerus, shows admirable definition.

New Inventions.

A SPRAY APPARATUS FOR DISINFECTING WITH FORMIC ALDEHYDE.

THE accompanying illustration shows a spray apparatus for the convenient application of formic aldehyde as a disinfectant. It has been introduced by Messrs. Reynolds and Branson, Limited, of Leeds, and is specially designed to fulfil the requirements of sanitary officers in the disinfection of houses, schools, and other buildings. The current of air for producing the jet of spray is obtained by means of bellows worked with the foot. The portable form here shown can conveniently be carried on a bicycle and in this way may be made to do duty over an extensive



district. The advantage is claimed for it that it can be used from the outside of a room by passing the tube through the doorway. The price of the apparatus complete in a waterproof carrier is £2 10*s.* Messrs. Reynolds and Branson have also devised an apparatus for utilising compressed air or oxygen, 10 cubic feet of which will, they say, vaporise about half a pint of formaldehyde solution—namely, a quantity sufficient for an ordinary bedroom. For working on a more extensive scale they supply a larger form of apparatus, the price of which is £6 10*s.*

A NEW SCOTOMETER.

MESSRS. WEISS AND SON, Limited, have made for me a little instrument which, in an amateur form, I have found very useful for the purpose of rapid determination of the condition of central colour disturbance common in toxic amblyopia. Behind a screen in which is cut a square aperture there rotates a disc bearing squares of red and green colour—two, three, five, and seven millimetres in diameter. The rotary disc has an automatic check action, so that it stops as each successive test is brought into the aperture. The observer, using his nose as a convenient point of fixation, can pass the "scotometer" over it and judge the presence and extent of colour disturbance in the patient by his perception of the colour of a larger or smaller square or by the movements of a square of given size from the fixation point. The colour squares are of the greatest range and size conformable with the handiness of the instrument, which is of the same size and thickness as the usual one-and-a-half inch trial lens, so that it finds a convenient place in the ophthalmoscope pocket-case or in a slot of a trial-lens case. In the actual instrument the face is clear of lettering; that which appears in the figure is stamped on the back.

N. BISHOP HARMAN, M.A., M.B. Cantab., F.R.C.S. Eng.

THE LANCET.

LONDON: SATURDAY, JULY 12, 1902.

The Illness of the King.

WE have but little news to communicate this week with regard to His Majesty's illness, a fact which may be considered as very satisfactory, for the case is one in which in its present stage "no news" is emphatically "good news." We are able to state, however, that the wound is granulating slowly but well and without any sort of drawback. Gauze plugs are still being used for the dressings which, we are glad to add, are now quite painless. The KING sleeps excellently; no narcotics are, or have at any time been, employed. His general health is most satisfactory, he looks well and is in good spirits, but it must be borne in mind by his loyal subjects that, well as everything is progressing, their beloved Sovereign is, as is only natural after having undergone such a severe operation, still an invalid and is at present restricted to the recumbent position. He is taking a diet of the very simplest description but is able to enjoy it. Sir THOMAS BARLOW has ceased to reside in Buckingham Palace but attends there every morning in consultation with his colleagues, Sir FREDERICK TREVES and Sir FRANCIS LAKING, who are both still in residence at the Palace. In view of certain detailed statements which continue to be made in a section of the press—statements which we are rejoiced to be able to stigmatise as lies—it is our duty, and a most pleasant duty it is, to say in the clearest possible terms that there is not, and that there never has been, the faintest shadow or ghost of suspicion of any malignant disease. The KING is free from cancer. We trust that this definite pronouncement on our part will put a final stop to such cruel rumours. What their object may be we cannot conceive, but we may ask, How would they who spread them like such false tittle-tattle to be given to the world concerning their own dear ones? Have they no sympathy with, or consideration for, the gracious and sweet lady who, like the rest of the Royal family, has been passing through a period of such great trouble and anxiety?

The Summer Season.

WITH each summer come a few weeks of genuine discomfort, followed in some instances by acute suffering, due to the excessive heat. This is an inconvenience which is more especially felt in large towns, and as the towns grow in size the more pressing does this grievance become. The central streets do not widen as the population increases and therefore become more and more crowded. This does not so much matter in the cooler days of the year, but the very hot weather makes us long for more elbow-room. Nor is it easy to escape, for, in London at least, the top of every omnibus is crowded, the inside is insupportable, and the Metropolitan railways become a veritable inferno where the unfortunate travellers are semi-suffocated by sulphurous fumes. Yet it is obvious that much of the suffering so widely endured could be obviated by the adoption of a few simple, practical measures and precautions. There is happily some prospect that the use of electricity instead of steam will render railway transit more endurable and this to the daily benefit of a very large number of persons. Again, there is no reason why omnibuses should not be built in such a manner as to admit of thorough ventilation without producing a dangerous or at all events unpleasant draught. In any case, there are in some places open tramcars, with only canvas curtains that may be closed to the windward or to keep out the rain or the sun. But for the fear of reducing dividends by increasing the working expenses this healthy and pleasant means of communication would be more widely employed. On the continent, where the warm season lasts longer than in England, these open summer tramcars are more extensively used.

Apart from public services each individual may, by the exercise of a little thought and discretion, do a great deal to lessen the inconvenience due to exceptional heat. The difficulty is to persuade persons to alter their habits for a season which in this country is of but short duration. Yet the very fact that great heat is quite exceptional, that therefore we are not accustomed to it, makes it all the more necessary to take proper measures. The healthy and strong may be only inconvenienced, but the feeble and aged may be seriously injured. Obviously the first precaution is so to plan our appointments and business as to allow plenty of time to walk slowly from place to place. People who live in hot climates do not race about as we are in the habit of doing in England. Also, the hotter the climate the more general is the abstinence from alcoholic drinks. The thoughtless Englishman, however, rushes about with just as much energy and rapidity during the very hot weather as during the more temperate periods of the year. As a natural result he is soon overwhelmed with thirst and therefore resorts to mineral waters with a dash of alcohol, or if this is too expensive he will take a glass of beer served in a tepid condition and then at once hurry back to his business. This only increases the perspiration from which he was already suffering. In time, especially if the drinks are repeated, reaction, headache, and general lassitude ensue. Such a *régime* is as inefficacious as it is injurious. First of all we should strive to keep cool by moving slowly, then we must endure thirst and abstain from drink while physically active. It is only when we have reached a comparatively cool place and can sit and rest for awhile that we may venture to quench our thirst. But then we come face to face with this great grievance that there are hardly any suitable summer drinks in this country and that there is a still greater lack of cool places where the mass of the people can rest while taking such light refreshment. The seething heat and foul atmosphere of our popular public-houses constitute a standing disgrace and no continental people would put up with such shamefully inadequate accommodation. In the centre of Paris, where land is as valuable as in London, the workman insists

on a chair and a table placed in the shade and in the open air before he will consume a drink in the cheapest of *cabarets*. For the wealthier classes there are luxurious cafés well shaded from the sun, the windows removed, and the ground kept cool by constant watering. Here, rest and a fresher atmosphere can be enjoyed, together with a great variety of pleasant iced drinks that contain little or no alcohol. Why are we in England so much behind other nations in this respect? In Germany the town workman has in summer-time numerous beer-gardens where there are shade and fresh air. In due measure with the comforts and luxuries provided do we find a decrease in the prevalence of drunkenness. Drunkards abound in our public-houses; they are almost never seen in a French café, even though absinthe be served at every other table. All that has been said in favour of temperance and against strong alcoholic drinks is doubly appropriate during the very hot weather. Then more than ever is a really good temperance drink urgently needed. It does not say much for the practical sense of the temperance party in this country that they have never yet been able to invent such a drink. Light lager beer is, we believe, yearly more and more appreciated in England. This is truly a temperate drink well suited for hot weather. As we have already shown by careful analyses beer of the Munich type contains as much nutriment with only half the alcohol that is to be found in typical high-class English beers.[1] Then it must be kept cool—namely, at about 45° F., which is better than being iced. There is also a larger demand for "lemon squash" or simple lemon juice with plain water and sugar, and this is a good symptom, for these are the sort of drinks that will do no harm during the hot weather. Tea is likewise taking the place of strong drinks and the hotter it is the more refreshing the after-effect—a fact which is at last being recognised.

Altogether, a great mass of the people are becoming wiser, but there is yet plenty of room for improvement. While in our streets we lack suitable cafés, terraces in the open air, beer- and tea-gardens, our homes are not provided with the proper means to keep ourselves cool. We want shutters that we can close to keep out the sun while we open the windows to let in the air. Verandahs are rare luxuries and awnings until quite lately have only been seen in clubs or the houses of the rich. The walls of our smaller houses are often so thin that we are exposed to the extremes of heat and cold, though here, again, legislation to defeat the jerry-builder is improving our prospects. The Londoner—comparing in our mind our capital with the capitals of other nations—suffers more from the heat than do the inhabitants of those continental towns where, the houses being larger, the walls are thicker and the indoor temperature is regular. The Englishman rejoices in the independence of having a house to himself, but he has to pay a price for the privilege. Then in many continental towns it is customary to close all offices and to stop all business from noon till two o'clock, so that there is no need to hurry over the midday meal and some rest in a cool, shaded place can be enjoyed. Of course, such a rest would not be practicable in the City of London, where the work of the world is done, but in the suburbs and in less profoundly busy centres at least the younger and weaker members of families who remain at home might be allowed a siesta in the hottest part of the day. It would be better for them to play, to study, or to work in the cool of the evening. When we have exceptionally hot weather we can with advantage imitate the customs of those peoples to whom such weather is a more usual experience than it is to ourselves.

[1] THE LANCET, Feb. 16th, 1895, p. 429.

The Fees of Medical Witnesses in Criminal Cases.

WE recently discussed[1] in a leading article some of the conditions that arise when medical practitioners are called upon to give evidence in civil actions and in an answer to a correspondent in a subsequent issue[2] we further explained our views upon this branch of the question of the remuneration of medical witnesses. The hardships that press upon medical men in connexion with giving evidence are not, however, confined to civil proceedings but are even more oppressive in criminal trials. Our contention is not that medical men should be exempt from giving evidence or that they should give such evidence upon advantageous and profitable terms, but that the peculiar circumstances which make them liable to be called as witnesses more often than any other class of person not directly connected with the administration of justice should be recognised, and that where their evidence is necessary everything reasonable should be done to render their pecuniary loss and their disturbance in the practice of their profession as small as possible.

Recent cases have called attention to the unenviable position occupied by medical men in respect of criminal as distinct from civil trials, and two of these may be brought to our readers' notice. In one of them, at Leeds, a medical man had attended a patient at the infirmary for injuries stated to have been inflicted by persons who had assaulted and robbed him. The medical man was not present when his name was called at the hearing before the deputy stipendiary magistrate, and two adjournments were made before he came. He afterwards explained that this was due on the first day to his not having been informed that he would be wanted and on the second day to a misapprehension as to the time, and he denied any desire to treat the magistrate with disrespect. His explanation seems to have been accepted, but apparently before he had had the opportunity of giving it he had been informed by the magistrate in open court that had he not appeared a warrant would have been issued to bring him, in which case had he refused to give evidence he would have been sent to gaol. We need not discuss the good taste of fulminations of this kind; they do not, however, tend to render the situation of the medical man less irksome and objectionable. In the second of the recent cases to which we have referred, on the trial of an indictment at the Suffolk assizes against a prisoner for indecent assault upon a little girl, the police informed the judge that each of the three medical men in the town where the child lived had refused to examine her on the ground that the fees allowed in connexion with

[1] THE LANCET, June 14th, 1902, p. 1702.
[2] THE LANCET, June 28th, 1902, p. 1828.

criminal proceedings were inadequate. The judge appears to have adopted a somewhat different tone to that employed by the magistrate at Leeds and to have intimated his intention of calling the attention of the Home Secretary to the matter. These two cases illustrate the two main causes which lead to medical men becoming witnesses in criminal courts by virtue of their profession. The first case belongs to that class which practically compels the medical man to be a witness whether he will or not. He is summoned to attend a person who is injured, perhaps seriously, but who is alive, and he can hardly stay to inquire whether rendering surgical aid, which may be necessary to save life, will make the surgeon a necessary witness at a criminal trial. Cases of the second class are those in which the medical man is invited to give evidence which only a medical man can give, but with regard to which there is nothing to indicate a particular practitioner as the witness to be summoned. Such cases not infrequently occur in country districts, where sexual offences constitute a large proportion of the charges which are tried at assizes and quarter sessions. It may be in such a case that a man is charged with unlawful carnal knowledge of a young girl. There is absolutely nothing about her that calls for medical aid and the medical man is only expected to examine her genital organs and to say in the witness-box whether in his opinion the conditions he has observed are consistent or inconsistent with the charge made. It can scarcely be a matter of surprise that medical men should hesitate to make an examination at such a juncture knowing that the pecuniary reward will be trifling and that the inconvenience and waste of time incurred will be considerable.

It must not be thought that in either of the two classes of case to which we have called attention we would wish to see the trial conducted without medical evidence. We make no such suggestion, but our contention is that a man who has to earn his living in a certain profession should be reasonably compensated if he is wanted as a witness and that his time should not be wasted unnecessarily. With regard to the present scale of compensation, the fee of a medical man for each day that he shall necessarily attend a court to give medical evidence does not in any case exceed a guinea, while there are allowances—such as 3*d.* per mile if he lives at a distance and 2*s.* as a contribution to the price of his night's lodging, if required—which are equally inadequate. Without discussing the prescribed fees and allowances in detail we would point out that they were fixed in the middle of the last century by Sir GEORGE GREY (the grandfather of the present Sir EDWARD GREY), Home Secretary during one of Lord PALMERSTON'S administrations. This alone should suggest that at the present date revision might be an act of justice. More important, however, than the actual amount of fees paid, is the question of inconvenience and disturbance. It may be that if the daily reward of the medical man for giving evidence were doubled or trebled, care would be taken to economise the public funds by occupying as little of his time as possible. Loss of money is not the only loss that he has to put up with. He has to leave his practice for an uncertain time, to waste precious hours doing nothing, and to feel frequently that the waste might be avoided. Many hours of waiting and inactivity there must be where a number of witnesses are summoned, for instance, to a country assize of a week's duration, but will any medical man who has endured such an experience assert that some part of the worry which was occasioned to him might not have been avoided by the exercise of care and organisation combined with consideration? Consideration is due to those who may have important cases of illness under their charge at home demanding their personal attention, and consideration is due to their patients. Medical men under the present system, when bound over to give evidence on a certain date, often do not know whether the trial in which they are witnesses will be concluded on that day or whether they may be kept for four or five days waiting for it to come on, and in consequence can make no proper arrangements for the care of their patients. They are, moreover, not infrequently retained in attendance without any information or permission to retire temporarily being vouchsafed to them, although such information or permission might safely be given. To these the inadequacy of the fee under the present scale may seem almost insulting but under whatever scale it was paid it would not compensate them for absence from practice coupled with the idleness and uncertainty needlessly imposed upon them.

The Accident to Mr. Chamberlain.

IN the early days of railways it used to be said that accidents would continue to occur until a director had been killed in one. Now that a Cabinet Minister has been severely injured in a cab accident and treated at a hospital we may hope to see two reforms brought about; firstly, a more generous appreciation of the hospitals by the well-to-do classes; and secondly, the abolition of the dangerous moveable window of the hansom. With regard to the first point we would recall to our readers the following passage from the Hospital Sunday Fund Supplement which appeared in THE LANCET of June 16th, 1900. In speaking of the reasons why the well-to-do should give to the hospitals we said:—

> "Let the giver, if he wants self-interest as well as charity for a motive, remember that the help he confers upon the hospitals may some day come back a hundred-fold upon himself. He may not belong to the class with which accidents are frequent in their daily work, but some day a mishap may lay him low so that the saving of his life may depend on the promptitude of succour. The doors of the nearest hospital will stand open for him as widely as they do for the labourer or for the poorest beggar in the streets. His life may depend upon the application of some new discovery of science, and let him remember that it is in the hospitals that such discoveries are brought to perfection."

Now, we do not suggest that Mr. CHAMBERLAIN'S life would have been endangered if he had been driven straight home, there to be attended by his medical man, instead of to Charing Cross Hospital, where he was conveyed on the advice of a policeman. Although wounds of the face or scalp bleed with astonishing freedom, yet owing to there being a hard bony surface against which to exert pressure the hæmorrhage can always be arrested, at least temporarily, by pressure on the wound. But the fact remains that he did not go home but was taken by a policeman to a general hospital, exactly the same procedure being followed as would have been had the victim been the

cabman or a street waif who had been knocked down by the cab. Arrived at the hospital he was attended to by the house surgeon on duty and the resident medical officer, and was detained for the night. A similar accident might happen to anyone on any day and Mr. CHAMBERLAIN'S misfortune ought to impress upon the ordinary well-to-do citizen that he may one day need a hospital and that therefore he ought to help to support those institutions with gladness and with such liberality as he can afford. We do not suggest that the selfish motive is the really important one; but while charity should impel all to support the hospitals it tells in favour of those hospitals that they afford relief to rich and poor alike.

Secondly, is it impossible that a hansom should be rendered a less dangerous vehicle than it is? As at present constituted the sliding window is a really perilous affair. If let down it makes the interior unbearably stuffy, while if the horse should chance to fall when the window is down the head of the fare is nearly certain to go through the glass and nasty cuts are inflicted. If, on the other hand, as in Mr. CHAMBERLAIN'S case, the horse falls when the window is up, the strap breaks or comes unfastened, with the result that the window falls somewhat after the fashion of the axe of a guillotine. Hansoms have been made which are entered at the back, but though this plan does away with the falling window it does not protect the head of the fare if the horse should go down. Is it impossible to manufacture a window which would go up and down like a roller-blind? This would obviate any danger of the window falling, and although the fare's head might still be projected through it, yet, as it would not be made of glass, but little harm would be done. The material to be used offers difficulty. If transparency is required something of the nature of celluloid would seem to be indicated though transparent celluloid is dangerous on account of its high degree of inflammability. But is transparency a necessity? The present window of a hansom is almost never let down except on account of rain—rain, moreover, which drives in an exactly opposite direction to that in which the hansom is going, so that vision is much impeded. It would seem therefore, that the uses of the window of the hansom are very limited, certainly they are not commensurate with the risk which the public is invited to take. Cannot mechanical ingenuity contrive a substitute?

Annotations.

"Ne quid nimis."

DEATH OF DR. JOHN CURNOW.

THE death of Dr. John Curnow, which occurred suddenly on Saturday last, July 5th, has come as a shock to a large circle of friends, which practically includes everyone educated at King's College Hospital for over 30 years. To ourselves and to all the senior members of our staff the news of his death brought a deep sense of personal loss, for Dr. Curnow had been connected with the editorial staff of THE LANCET for more than a quarter of a century. We shall publish in an early issue an extended obituary notice of our dead friend, whose brilliant record as a young man, sound scientific attainments, love of right and scorn of humbug, and unfailing good temper and kindness of heart entitle him to more than mere passing notice. A memorial service was held on July 9th at King's College Chapel and the funeral took place on the same day at Highgate. Besides the two sisters and brother-in-law of the deceased there were present various friends of the family. From King's College Hospital there came Dr. N. Tirard, Dr. N. Dalton, Mr. W. Watson Cheyne, Mr. P. T. Beale, many of the resident medical officers and of Dr. Curnow's clinical clerks, the sisters of his wards, some nurses, and Captain H. S. Tunnard, the secretary. Dr. H. P. Cholmeley represented THE LANCET and Dr. Herbert Smalley of the Prison Commission attended as an old King's College Hospital man and a personal friend of long standing.

A CASE FOR PUBLICITY.

WE have already discussed the affairs of the Royal Orthopædic Hospital under this heading and may assume that the details of the unfortunate plight in which the institution is placed are familiar to most of our readers. Roughly speaking, the situation is this. The hospital owns a freehold of great value; the committee of management proposes to sell that freehold; and certain governors and members of the medical staff think that to do so is suicidal. Undoubtedly a large sum of money would be received from the sale, but equally undoubtedly the freehold is one that will increase in value; so that, unless urgency can be pleaded, on the face of it the sale should not be made. But if, on behalf of the patients, urgency is required no pecuniary considerations must interfere with immediate sale. A hospital should be run for its patients. We have recently had an opportunity of inspecting the buildings of the Royal Orthopædic Hospital, when every possible courtesy was offered to our representatives, and every facility was given to them for framing an opinion upon the whole question. The conclusions which were come to by our representatives, one of whom we may say was an architect, and both of whom were perfectly familiar with the requirements of a modern hospital, were as follows. The Oxford-street end of the property, where, of course, the enormously valuable frontage is situated, must be condemned *in toto* as a fabric. At the present time this building is given up to an out-patient department of unsatisfactory aspect and imperfect equipment, having above it certain leaky little rooms for nurses. The Hanover-square end of the property, which is now being used as a hospital for some 40 beds, a large proportion of the patients being children, is in better case. It is not a modern building and is without many of the conveniences of a new hospital, but the wards are airy, light, and clean, and the fabric has recently been put into good sanitary repair. That this building will in course of time have to be replaced by a properly equipped structure, should the hospital remain upon its present site, is undoubted; but the state in which it now is does not allow urgency to be pleaded as a reason for moving. In the circumstances it seems to us that the policy of the hospital should be to build upon the Oxford-street end of the property, when it would certainly obtain a very large rent for the ground-floors—perhaps as much as £1000 per annum. Above the shop could be placed proper accommodation for the matron, nurses, and servants. In this way the matron's room, at present in the Hanover-square building, would be free for occupation by a resident house surgeon. The Hanover-square end of the building—that is to say, the hospital proper—could be made to do for a further period until the enhanced value of the whole property enables either a better sale to be made or a new hospital to be constructed upon the present site. Absolutely no proof of any urgency is forthcoming. 40 beds

out of the 50 which the building will possibly hold are occupied, and the income of the hospital does not suffice to keep more than that number filled. These are our views and we have heard nothing from those responsible for the policy of an immediate sale that leads us to alter them. We do not say that the committee of management has no reason for what it proposes, but we do say that it is singularly reticent, considering that it is dealing with a public charity. The whole case is one for publicity. Why must the site be sold at all? Why must it be sold at once? And if it must be sold at once, why is not its proper price ascertained in the usual way by putting the property up at Tokenhouse-yard? It is possible that an answer to some of these questions may now be forthcoming, for on Wednesday afternoon last an inquiry into the matter was held at the hospital by the Charity Commissioners. The inquiry was conducted by Mr. G. S. D. Murray, assistant commissioner, when the strong case for those opposed to immediate sale was put forward. The Charity Commissioners are not likely to sanction any sale upon grounds that will not bear public investigation and free discussion.

LACHNANTHES.

WE publish an interesting communication this week on the chemical and therapeutic properties of lachnanthes, that much-discussed drug in regard to its alleged value in the treatment of tuberculosis. By following well-recognised chemical methods Mr. J. A. Gardner, M.A., F.I.C., has been able already to separate from the extract chemical entities which no doubt under further study will resolve themselves into substances of definite chemical composition. Thus, to quote one instance, a syrup was obtained which on standing for some weeks deposited crystals. The nature of these and other bodies will be elucidated, it is hoped, as a sufficient supply of the material is gained. Lachnanthes evidently consists largely of resinoids and further, perhaps, contains bodies of the nature of alkaloids. At any rate, an aqueous extract of the material is very distinctly toxic and far from any inhibitory action being shown upon the progress of tuberculosis the injection of the extract would seem to hasten it. These preliminary results are of sufficient interest to warrant extended inquiry and the indications of further experiments will be awaited with interest. The biological part of the inquiry was undertaken by Dr. Harold R. D. Spitta and Dr. Arthur Latham.

SUTURE OF WOUNDS OF THE HEART.

A DIRECT result of the antiseptic method has been the bringing of every region of the body within the field of the operator. In consequence of obvious peculiar difficulties the heart has been the last territory encroached upon by modern surgery. Indeed, the number of operations performed on it are still very few. At the recent annual meeting of the American Medical Association Dr. Harry M. Sherman devoted his "Oration on Surgery" to "Suture of Heart Wounds" and presented a useful summary of our present knowledge of the subject. In 1896 the heart was sutured three times for wounds, in 1897 twice, in 1898 four times, in 1899 11 times, in 1900 three times, and in 1901 nine times. This year two operations have already been reported. All the wounds were punctured or incised except two bullet wounds. The ventricles were injured 32 times, the auricles twice—the right being opened in one case and the left in the other. In most of the cases in which details are given the pleura was wounded and usually there was hæmothorax. The method of operation varied: either a flap of all the tissues of the thoracic wall was turned up or a resection of two or more ribs was performed. Three operators used catgut for suturing the heart. In the other instances in which the material is specified silk was used. In most cases the sutures were interrupted, in a few they were continuous. Inclusion of the endocardium was avoided. The thoracic flaps were, of course, replaced; in seven cases drainage of the pleura and pericardium was performed, in four of the pleura alone. Of the 34 patients five died on the table from hæmorrhage or shock and 10 soon afterwards. These deaths were probably inevitable under any conditions. Of the remaining 19, 13 recovered and six died from sepsis. In not one instance was death due to secondary hæmorrhage. Thus the suture of the heart in all the 19 cases was a perfectly successful operation for the arrest of hæmorrhage. The symptoms of wound of the heart are an external wound in the pericardium, the general signs of hæmorrhage, disturbance of cardiac function, and signs of filling of the pericardium and pleura. The left pleura extends so close to the sternum that practically a wound of the heart implies penetration of the pleura. Also in exposing the heart for suture opening of the pleural cavity is unavoidable. In the *Münchener Medicinische Wochenschrift* of Jan. 16th, 1900, Dr. Rotter has carefully described a method of exposing the heart so completely that even the posterior surface can be reached.[1] In it a flap is formed containing the inner ends of the fourth and fifth ribs which are divided and luxated from their sternal attachments. The flap of thoracic wall is turned inwards like a door on its hinges. The subject is of wide practical importance, for suture of the heart, like herniotomy and tracheotomy, is an operation of emergency which any medical man should be prepared to undertake. If hæmorrhage into the pericardium is not arrested when the limit of pericardial distensibility is reached the heart is unable to dilate and its movements are mechanically stopped.

DISTRIBUTION OF MEDICAL PRACTITIONERS IN THE UNITED KINGDOM.

A CORRESPONDENT has been making investigations into the distribution of medical practitioners or professors in the following places in the United Kingdom where the greatest number of them are congregated. He finds that the average number of medical persons in those places per 10,000 of the population works out as follows:—Clifton, 36·80; Bournemouth, 24·38; Harrogate, 21·11; Cambridge, 21·09; Weston-super-Mare, 20·47; Bath, 20·07; Brighton, 19·51; Edinburgh, 19·14; Southport and Birkdale, 17·66; Tunbridge Wells, 17·07; Torquay, 16·65; Eastbourne, 15·46; Bedford, 15·36; Oxford, 14·16; Dublin, 13·83; Scarborough, 13·36; Hastings and St. Leonards, 13·05; Glasgow, 12·80; Cheltenham, 12·33; Cork, 10·92; Blackpool, 10·56; Aberdeen, 10·45; Waterford, 9·72; York, 8·86; Plymouth, 8·55; Wakefield, 8·42; Limerick, 8·13; Newcastle-on-Tyne, 7·91; Cardiff, 7·78; Lancaster, 7·66; Southampton, 7·53; Londonderry, 7·49; Birmingham, 7·29; Birkenhead, 7·21; Croydon, 7·17; Belfast, 6·59; Stockport, 6·51; Manchester and Salford, 6·41; Nottingham, 6·38; Liverpool, 6·32; Portsmouth, 6·02; Preston, 6·01; Wolverhampton, 5·94; Leeds, 5·75; Derby, 5·57; Bootle, 5·46; Huddersfield, 5·36; Blackburn, 5·33; Northampton, 5·28; Great Yarmouth, 5·26; Bradford, 5·19; Sunderland, 5·11; Halifax, 5·05; Leicester, 5·05; Oldham, 5·02; Norwich, 5·01; Sheffield, 5·01; Paisley, 5·00; Bristol, 4·89; Burnley, 4·84; Hull, 4·65; Rochdale, 4·45; Dundee, 4·40; Middlesbro'-on-Tees, 4·38; South Shields, 4·31; Bolton, 4·16; Walsall, 3·93; Leith, 3·67; Gateshead, 3·63; and St. Helens, 3·31. In London there are about 12 medical persons per 10,000 of the population. The 24 cities in the United Kingdom which contain the largest number of medical practitioners or professors are the following, placed in

[1] THE LANCET, Feb. 16th, 1901, p. 491.

numerical order—viz., London, Glasgow, Edinburgh, Manchester (including Salford), Liverpool, Dublin, Birmingham, Leeds, Brighton, Belfast, Sheffield, Newcastle-on-Tyne, Aberdeen, Bristol, Bradford, Bournemouth, Nottingham, Cardiff, Portsmouth, Hull, Southport (including Birkdale), Clifton, Leicester, and Bath. The above figures are based upon information comprised in the Medical Directory, 1902, which contains in the London list 6292 names, in the Glasgow list 732 names, and in the Bath list 100 names. Some of the medical persons, however, have retired and a few are travelling.

THE PREVALENCE OF SMALL-POX.

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned: on Saturday, July 5th, there were six fresh cases; on Sunday, the 6th, there were four fresh cases; on Monday, the 7th, there were seven fresh cases; on Tuesday, the 8th, there were 6 fresh cases; and on Wednesday, the 9th, there were 5 fresh cases.

ACROPARÆSTHESIA: AN ANALYSIS OF 100 CASES.

AN important study of the somewhat rare nervous disorder known as acroparæsthesia is contributed by Professor Joseph Collins of New York to the *Medical Record* of May 31st last. Acroparæsthesia is characterised by abnormal sensations in the extremities, principally those of pricking, tingling, "pins and needles," and numbness. The present contribution was based on the study of 100 cases observed during the past five years at the clinic of the New York Post-graduate Medical School. Symptoms allied to acroparæsthesia are often associated with such bodily conditions as chronic rheumatism, gout, and other arthritic disturbances, peripheral neuritis, diabetes, and pulmonary phthisis, but such cases were excluded from the present research which concerned itself only with cases where the acroparæsthesia itself was the only manifestation of disease or where other manifestations could not be found. As a typical case among the many cited by the writer the following may be given. A woman, aged 68 years, suffered from symptoms of numbness and tingling of the hands and arms soon after retiring to bed. When the pain or discomfort reached its height she would awake and rub her fingers and hands till relief was obtained and then go to sleep again. This occurred five or six times every night and prevented her sleeping soundly. It was found that she had been overworking herself to the point of fatigue for some time preceding the illness and was also suffering from constipation. The symptoms soon ceased and did not recur. Among the 100 cases the average age when the symptoms appeared was 39 years, most of the patients being between the ages of 30 and 50 years. There were 69 females to 31 males and most of the latter were Jews of the lower class. Among diseases which preceded the ailment were rheumatism, influenza, typhoid fever, pneumonia, or ill-health from alcoholic intemperance, but in not one case was syphilis ascertained to have been present. As regards distribution of the symptoms, in 52 per cent. of the cases they were in the arms and hands, in 10 per cent. in the feet and legs, and in 30 per cent. in both the upper and lower extremities. In the remaining few cases they were present in other parts of the body and only in a single case in the face. Associated gastric disorders were present in many cases—viz., constipation in 32 per cent., anorexia and coated tongue in 15 per cent., and gastro-intestinal fermentation in 10 per cent. of the cases. 14 patients complained of headache and 11 had marked neurasthenic symptoms. The peripheral circulation was slow and feeble, the pulse was small, and the hands and feet were clammy in 20 per cent., but in no case was sclerodactylia or Raynaud's disease present in the whole series. The average duration of the symptoms of acroparæsthesia was 14 months. The occupations in which it was most prevalent were those involving overwork with the hands, as in the case of tailors, washerwomen, and laundry workers, but gastric disorder or constipation predisposed to it. The treatment consisted of rest, "tonic baths" (cold-water splashing of the body and limbs at from 65° to 75° F., followed by vigorous rubbing of the back and abdomen), galvanisation of the cervical and brachial plexuses, a diet to correct constipation, and the administration of arsenic and strychnine as nerve tonics. The pathology of the disease remains, adds Professor Collins, as yet obscure.

PRESERVED SHRIMPS AGAIN.

ON more than one occasion we have referred in our columns to the increasing sale of shrimps imported from Holland preserved with excessive quantities of borax. It appears that an enormous amount of Dutch shrimps are imported for distribution as fresh English shrimps. Apart from the deception which is thus practised the shrimps contain very large amounts of borax or boric acid, equal to about 41 grains per pound of the acid. According to the recommendations of the Departmental Committee on Food Preservatives borax is permitted to be used in cream, butter, and margarine in certain amounts which are not to be exceeded. The recommendations, however, do not relate to other articles of food, such as shrimps, and, therefore, we may take it that these could be treated with an unlimited amount of borax. Imported shrimps so preserved are obviously, however, not of the nature and substance demanded, as, of course, they are not English shrimps. Such was the view taken by the bench in the case tried recently at Ormskirk. During the hearing of the case it was stated that an old industry was threatened with ruin by the introduction of foreign shrimps. It would be interesting to know what view would be taken in the case of other fish, such as salmon, which, let us assume, was sold as fine Scotch salmon, but which proved to be an imported fish preserved in the same way as are Dutch shrimps.

ON THE USE OF TRIANGULAR DIAGRAMS FOR THE REPRESENTATION AND COMPARISON OF DIFFERENT TYPES OF SKULL.

Professor W. M. Flinders Petrie, the Egyptologist, has devised an ingenious method of representing the principal cranial indices by means of a system of diagrams which clearly exhibit their characteristic features even though they may be drawn so small that a threepenny-piece will cover them. The principle is fully explained in the June number of *Man*, a journal published under the direction of the Anthropological Institute of Great Britain and Ireland. A vertical line is drawn on paper and from its lower extremity two other lines are drawn making with it angles of 120°. The three lines therefore meet in a point, like radii of a circle, and are equally inclined to one another. Any scale of equal parts being taken and the numbers corresponding to the three principal measurements of the skull being found upon it, the vertical line is made equal to the number of divisions representing the height of the skull, the line sloping downwards to the left is made equal to those representing the length of the skull, and the line sloping downwards to the right is made equal to those representing the breadth of the skull. Then by joining the outer ends of these three lines a triangle is formed the inclinations of the three sides of which show the ratios (1) of the length to the breadth, (2) of the length to the height, and (3) of the breadth to the height. The indices of different skulls obviously may be compared

by observing the slope of the corresponding sides of the respective triangles—e.g., with a brachycephalic skull the base line will slope downwards from left to right, while with a dolichocephalic skull the base line will slope downwards from right to left. Moreover, in these triangles the whole area varies with the capacity of the skull, and the area of each of the three triangles within the large one varies with the area of the three cross sections of the skull, vertical fore-and-aft section being shown by the left-hand inner triangle, vertical cross section by the right hand inner trangle, and horizontal section by the lowest inner triangle. In order that two or more triangles may be comparable with one another it is obvious that the same scale of equal parts must be used in setting out the lengths of the three central radiating lines. Ethnological classifications of a more elaborate kind can be obtained in a graphic and compact form by superimposing these cranial triangles upon paper ruled in squares which in the horizontal direction show the transition from the orthognathous to the prognathous type and in the vertical direction the transition from the wide-nose type to the narrow-nose type.

THE HENRIETTE RAPHAEL NURSES' HOME.

ON July 7th the Prince and Princess of Wales visited Guy's Hospital and opened the Henriette Raphael Nurses' Home, which was founded by the late Mr. H. L. Raphael in memory of his wife. The erection of the home has cost about £68,000, and towards this sum the late Mr. Raphael gave £20,000. The building contains, besides living rooms, 213 bedrooms, a sick ward, and a swimming bath. In reply to an address of welcome by Mr. Bonsor, the treasurer of Guy's Hospital, the Prince of Wales said :—

Mr. Treasurer, my Lords, Ladies, and Gentlemen.—Before I allude to the object for which we are met together to-day I am sure that all who are here will join with me in expressing our feeling of unbounded thankfulness to God for the merciful recovery of my dear father the King. ..... And speaking before the authorities of one of our leading hospitals, I should like to say that we who have watched at the sick bed of the King fully realise how much, humanly speaking, is due to the eminent surgical and medical skill as well as to the patient and highly-trained nursing which it has been His Majesty's good fortune to enjoy. So it seems almost fitting that one of the first public ceremonies that the Princess and I should take part in since the King's serious illness should be to open this beautiful home for nurses within the precincts of this great hospital which we have just had the pleasure of inspecting. It is only in comparatively recent times that the rôle of the nurse in the sick-room has been fully recognised. But are there not many here who, like myself, will throughout our lives remember with the deepest gratitude the soothing comfort, indeed, I may say, the blessing, of efficient nursing? ..... Recognising, therefore, the high and indispensable position which nurses occupy, the least that can be done for them is to provide the comforts of a home, where they can enjoy rest and relaxation after their hours of arduous and self-sacrificing work. It was one man who, holding this view, gave practical reality to it by the munificent gift already referred to by the treasurer for the purpose of establishing this home which we to-day inaugurate; and I am glad, as your President, to congratulate Mr. Raphael, who, I am happy to think, is one of our governors, upon the consummation of the work of which his father was the founder and which for all time will bear the name of his mother. ... I now have much pleasure in declaring the Henriette Raphael Nurses' Home open.

THE REPORT OF THE JOINT SELECT COMMITTEE OF THE TWO HOUSES OF PARLIAMENT ON THE LONDON WATER BILL.

THE "Report and Special Report from the Joint Select Committee of the House of Lords and the House of Commons on the London Water Bill with the proceedings of the Committee" have been recently published.[1] The gist of the proceedings and the practical outcome of the report have already been given in THE LANCET and the nature of the special report has been correctly foreshadowed. The information given which is new to us is the way in which the members of the committee voted at the various divisions. The first important division was that which took place on April 30th on the constitution of the proposed Water Board. Lord Balfour of Burleigh proposed that "the committee accept in its general lines the composition of the board as set out in the third schedule," and to this Lord Llandaff proposed an amendment to leave out all the words after "committee" and to insert instead the words "delete the representation of the metropolitan boroughs from that schedule." Those who supported the amendment were the Earl of Crewe, Lord de Mauley, Sir William Houldsworth, Sir James Kitson, and Mr. M'Crae. Those in favour of the Government proposal were Lord Balfour of Burleigh, Lord Ludlow, and Sir William Arrol. It will be remembered that the Government made a strong appeal to the committee to reconsider its decision, and the President of the Local Government Board himself was present. On May 6th the committee decided to receive evidence tendered by the metropolitan boroughs with reference to the proposed Water Board. This course practically reopened a question which had been already decided, and those in favour of the proceeding were Lord Balfour of Burleigh, Lord Ludlow, and Sir William Arrol (who were from the first in favour of the Government measure), Sir Edgar Vincent (who was not present in the earlier division), and Lord de Mauley, Sir William Houldsworth, and Sir James Kitson, who practically changed sides. The final decision as to the constitution of the Water Board was made on June 11th and the result really depended on the way in which the question was put. Lord Balfour, Lord Ludlow, Sir William Arrol, Sir William Houldsworth, and Sir Edgar Vincent were in favour of the Government proposal, the Earl of Crewe, Viscount Llandaff, Lord de Mauley, Sir James Kitson, and Mr. M'Crae were opposed to it. The special report drawn up by Lord Balfour of Burleigh in regard to the way in which the decision was arrived at is as follows :—

On the question of passing the schedule as a whole the chairman was requested to put the question, "That the schedule stand part of the Bill," but he gave it as his decision that he should not so put the question, but that if such motion were made he should put the question in the form, "That the schedule be disagreed to." The question having been thus put and the numbers being equal the chairman (having in accordance with precedent no casting vote) ruled that the said schedule must stand part of the Bill on the principle that no amendment should be made to the Bill as referred to the Committee by the House after second reading unless there should be a majority in favour of such amendment.

THE WATER-SUPPLY OF LIVERPOOL.

THE annual report of the engineer of the City of Liverpool Waterworks[1] has recently been published. A full account of the sources of supply has been given in THE LANCET and on that point nothing need be added. The most interesting part of the present report is that which relates the difficulties which have occurred owing to the obstruction to the flow of unfiltered water through the pipe which conveys it from Lake Vyrnwy to Oswestry. An elaborate series of experiments has been made and the information which has been obtained from them will be of the greatest service to all those who have the responsibility of conducting upland water for long distances for the supply of cities. It may be of use to state in the briefest possible manner the difficulties which have presented themselves, the nature of the investigation which was adopted to discover their cause, and the new facts which have been established as a result of the investigation. The trouble arose from the fact that the pipe which conducted the unfiltered water delivered a quantity considerably less in amount than it should have done—roughly speaking, about one-seventh less. Mr. Deacon's pipe-cleaning apparatus—a specially devised brush—was used with good results and the process of cleaning the pipe occupied about 10 days. The trouble recurred. Experiments were undertaken with a view to determine the exact nature of the obstructing matter and the best method

[1] London: Eyre and Spottiswoode, price 3d.

[1] City of Liverpool Waterworks: Annual Report of the Engineer, Year 1901. Printed in accordance with a Resolution of the Water Committee. Liverpool, 1902.

of preventing its accumulation. Professor J. Campbell Brown, D Sc., found incrustations on the inner surface of the pipes, that these were due mainly to corrosion, that there were growths of organisms, and that the flow of water was checked partly by the diminution in the lumen of the pipe and partly by the increased friction set up by the nodosities on its surface. Accumulations of débris of mineral and organic substances were found. Professor Campbell Brown recommended that the pipes should be treated with pitch and that lime should be added to the lake water. Filtration he recommended as perhaps a less important measure. The most interesting part in his report is to the effect that he has ascertained that a great deal of the colour of Vyrnwy water is due to an organic compound of iron, and not to peat, as is popularly supposed. Professor Rubert Boyce has made a very thorough examination of the matter which is deposited from the Vyrnwy water as seen in specimens taken from the lake at different depths from the settling reservoir at Oswestry and from the aqueduct which carries it from the lake to the reservoir. The deposit has the appearance of coffee-grounds, is rich in iron, contains some manganese and a fungus of undetermined name, of thread-like appearance, gelatinous nature, and oxide-of-iron-forming properties. Although the presence of the organism is advantageous in so far as it precipitates some of the iron contained in the water it is highly inconvenient that the deposit should occur in the pipes. The elimination of the organism is therefore desirable, and Professor Boyce believes that the best method of accomplishing this is by the process of filtration, and Mr. Joseph Parry, the engineer to the waterworks, agrees with this view. The chief practical point which the investigation has brought out is that in the case of upland waters there is strong evidence in favour of placing the filter-beds as near as possible to the gathering-grounds.

HORSE-DUNG IN LONDON STREETS.

FEW of the sanitary problems of large towns more urgently require to be dealt with than the constant fouling of the streets by the droppings of the countless horses which daily thread the busiest thoroughfares and few at present receive less notice, for even the nimble youth with brush and pan, at one time a familiar object, is fast vanishing, if not quite extinct, and the only attempt apparently now made to deal with the problem is to water spasmodically the surface of the roads by day and to sweep them by night. Apart from the disgust occasioned by the sight of roads thickly powdered with dried or drying manure and the offensive smell exhaled as evaporation proceeds, particularly from the sodden surface of wood-paved thoroughfares, there is the discomfort caused as the result of the dried floating particles, stirred by the wind or the traffic in the streets, irritating the nasal mucous membrane and conjunctivæ, while the pathogenic possibilities must not be forgotten. Intestinal bacteria certainly flourish in the large intestine of herbivora as well as of carnivora, and apart from these the dejecta, especially when moistened, may well form a culture-medium for other organisms. It is at any rate possible that some of the cases of conjunctivitis or of catarrh of the throat and nose may, if not actually caused, at any rate be predisposed to, by the persistent irritation set up. It is no uncommon thing, especially on a slightly windy day, to see the dried material swept by the wind into a thick layer at one side of the road, and pedestrians walking in a thin haze of irritating particles. It is, of course, easier to point out a nuisance than to remedy it, but surely it is imperative, in the interests of public comfort and not improbably of public health, that municipal authorities should endeavour to find some means of dealing with this matter; possibly some light form of mechanical scavenger—motor-propelled—might be contrived so as to pass sufficiently rapidly over the surface of the road as not to impede the general traffic.

WALL-PAPER AND VENTILATION.

IN a recent number the *Builder* draws attention to the influence of wall-papers on the ventilation of rooms. With doors and windows closed the atmospheric contents of an unpapered room undergo change at the rate of one-twenty-fifth of the whole per hour for each degree of difference between the inside and the outside temperatures. Supposing the external air to be at 35° F. and the internal air to be at 60°, a complete renewal would take place in an hour by means of transpiration alone. When rooms are papered, however, the rate of diffusion is much slower, not exceeding one-eightieth of the whole per degree per hour. Should the paper be varnished the rate falls still lower, while cemented and painted walls are almost impermeable. As very little provision is designedly made for ventilation in ordinary dwelling-houses, and especially in those at low rentals, the subject is one well worthy of consideration by architects and builders. Thanks to the jerry-builder with his green-wood fittings the wholesome outside air can make its way into many a dwelling-house that otherwise would be uninhabitable, but ventilation through cracks and fissures is, of course, objectionable as it gives rise to draughts. The employment of reasonably porous building material should be advocated in all new constructions, but when, for any reason, impermeable material is used the provision of scientific ventilating media should be made a *sine qua non*.

ASPHYXIA FROM PRESSURE ON THE CHEST.

THOUGH asphyxia from pressure on the chest is a well-recognised cause of death the symptoms have been seldom studied because the condition usually is rapidly fatal. We have already described one case in which the patient survived.[1] In this a peculiar mottled, dusky bluish appearance of the skin was produced which differed from cyanosis in that it did not disappear on pressure and persisted after the patient improved. In the *Boston Medical and Surgical Journal* of May 15th another case is recorded by Dr. H. H. A. Beach and Dr. Farrar Cobb. It is of special importance not only on account of its rarity but also because a piece of the affected skin was removed during life and examined. A healthy muscular man, aged between 30 and 40 years, was caught in an elevator and held for fully three minutes. His face turned black, his eyes protruded, and he bled from the nose. When set free he was unconscious for a few minutes. An hour later, when he was admitted to hospital, he was conscious but stupid and in a state of moderate shock. The skin of the face was dotted with countless closely set spots from black to reddish-black or blue in colour. Between them were minute areas of normal skin. In the neck in front there was a sharp line of demarcation; behind the discolouration corresponded to the position of the trapezii muscles, a fact which has not been noted in any other case. There were signs of severe injury from the groins and buttocks to the middle of the thorax, several contusions of the abdomen, a large fluctuating hæmatoma in the left loin and back, and fracture of the eighth and ninth ribs in the axillary line with subcutaneous emphysema in the neighbourhood. Pressure on the blue-black skin had little effect in causing it to become pale. The patient was never very ill, except on the third day when his temperature rose to 106° F. and his breathing was difficult; both lungs were full of râles and the expectoration was somewhat bloody. This condition, however, passed

[1] THE LANCET, Jan. 25th, 1902, p. 245.

away in 24 hours. The hæmatoma in the back was aspirated six times; each time from one to two pints of bloody serum were withdrawn and each time the fluid reaccumulated with great rapidity. The discolouration of the skin faded rapidly after the third day and the intermediate areas of normal skin became larger. In contrast to this subconjunctival hæmorrhages, which were present, went through the usual changes observed in absorption of blood. A piece of discoloured skin was removed from the neck and examined microscopically. The section showed nothing abnormal. This bears out the view advanced by Dr. Ollivier, who examined the bodies of 23 persons crushed to death by the rush of the mob in the Champs de Mars in 1837, that the discolouration is due to stasis of hyper-venous blood in dilated capillaries. All the cases examined post mortem have shown changes characteristic of venous engorgement—distended great veins and punctate hæmorrhages on the surfaces of the viscera. But why was the remarkable discolouration of the skin confined to the face and neck? In the case previously described in THE LANCET[1] it extended as low as the third rib. No satisfactory answer to the question is apparent.

A MEDICAL RESEARCH INSTITUTE IN THE FAR EAST.

WE have received from the office of the Resident-General at Selangor an intimation to the effect that the Government of the Federated Malay States has established in Kuala Lumpur, the capital of the Federated Malay States, a research institute which is open to all workers irrespectively of nationality. The medical department is fully equipped for special and general pathological work, for the scientific study of clinical medicine, and for experimental physiology and bacteriology. It includes a modern mortuary with a refrigerator chamber, a department for both organic and inorganic chemistry, a well-equipped photographic department, facilities for biological research, and a good working library. It is stated that to the members of scientific commissions who visit the Malay Peninsula and neighbouring islands the institute affords an excellent opportunity for working up and preparing collected material. Students of tropical medicine will find there an ample field for work. Beri-beri is prevalent and malaria exists in at least four distinct types. The institute is at present under the direction of Mr. Hamilton Wright, M.D. McGill, to whom any communications in reference to the institute may be addressed.

THE DESTRUCTOR NUISANCE AT TORQUAY.

IN our issue of June 14th, page 1706, we adjured the municipal fathers of Torquay to endeavour to render their beautiful town worthy of its reputation as a health resort. The destructor still continues to emit offensive odours and we learn from Dr. H. Humphreys that on July 1st he had to keep his windows shut all day and night on account of "oily and gritty fumes blown down upon us by a northerly wind." The Misses Tapper who have before complained to the Council on the subject tell us the same story about July 1st. These ladies say that even after their doors and windows were closed "the sickening odour pervaded the whole house." The town council apparently argue that there is no noxious smell given off by the destructor. Of municipalities it may be said with the Psalmist, "Noses have they but they smell not." In the good old days when Smithfield and its vicinity was a sink of cruelty—"dung, guts, and blood" and other horrors—it was proposed to do away with the cattle market. This proposal met with bitter opposition from the City fathers, one of whom went so far as to say that the Smithfield smells were as refreshing as the seaside. This remark inspired Leech to the drawing of an inimitable cartoon which appeared in *Punch*—we fancy in 1854—wherein the alderman and his family were depicted taking a summer holiday in Smithfield and saying, "How delicious the drains smell this morning." Possibly when the Torquay councillors do smell the destructor they will say the same thing. We wish that they would send us a copy of Mr. Davis's report. We have it on the authority of the mayor that there is nothing to keep back. We learn from the "Torquay Directory" of July 2nd that 500 copies of the new "Pictorial" issued by the Torquay Directory Company have been obtained by the corporation for distribution throughout the country. From this "Pictorial," a copy of which lies before us, we see that it is claimed for Torquay that at the present moment it stands pre-eminent for the perfection of its sanitary system. "Nothing that science, skill, and money can achieve has been left undone ..... the local authorities and sanitary staff are imbued with a deep sense of the importance of perfect sanitary arrangements and devote no little time, energy, skill, and constant supervision to maintain in a high state of efficiency everything bearing upon, or contributing to, the health of the people." Despite this, however, the average visitor will not be allured by the smells from the destructor which apparently envelop Torquay whenever there is a northerly wind.

[1] Loc. cit.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE sixty-first annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at the Medical Institution, Hope-street, Liverpool, on Thursday and Friday, July 24th and 25th, under the presidency of Dr. Joseph Wiglesworth. The annual meeting will commence at 11 A.M. on Thursday and will be preceded by meetings of the Educational Committee, the Rules Committee, the Parliamentary Committee, and the council, to be held between 9 and 10 A.M. After the election of the officers and council eight candidates will be proposed for election as ordinary members, Dr. Giovanni S. B. Estense of Rome will be proposed for election as a corresponding member, and Dr. Sidney Coupland of London and Dr. Edward N. Brush of Towson, Maryland, U.S.A., will be proposed for election as honorary members. At 2 P.M. Dr. Wiglesworth will deliver the presidential address, after which medals and prizes will be distributed. At 3.15 P.M. Mr. Damer Harrisson will read a paper entitled "Some Remarks upon the Surgical Treatment of Insanity." At 4 P.M. Dr. Charles A. Mercier will propose the following motion, upon which Mr. Percy Becher, solicitor, of Bedford-row, London, and others will speak: "That in the opinion of this association further legislative measures are needed to protect the property of those who, without being certifiably insane, are yet, by reason of disorder of mind, unable to administer their affairs with ordinary prudence." The annual dinner will be held at the Adelphi Hotel, Liverpool, at 7 P.M. (tickets £1 1s., inclusive of wine). On Friday, July 25th, at 10 A.M., Dr. F. W. Mott will read a paper entitled "Stimulus in Relation to Decay and Repair of the Nervous System." Professor C. S. Sherrington, Dr. W. B. Warrington, and others will take part in the discussion. Dr. A. W. Campbell will give a lantern demonstration on Medullated Nerve-fibres of the Cerebral Cortex. Dr. David Orr will give a lantern demonstration on Nerve-cell and Medullated Fibre Changes in Acute Insanity. At 2 P.M. Dr. T. S. Clouston will introduce a discussion upon "The Possibility of Providing Suitable Means of Treatment for Incipient and Transient Mental Diseases in our Great General Hospitals," after which Dr. C. Hubert Bond will read a paper entitled "Medico-Psychological Statistics—the

Desirability of Correlation with a View to Collective Study." Dr. A. R. Urquhart and Dr. W. Ford Robertson will read a clinical report on a case of Epilepsy. Dr. W. R. Dawson will read notes on the Pathology of Diabetic Insanity. The President and Mrs. Wiglesworth invite members to a garden party on Saturday, July 26th, at the Rainhill Asylum, near Liverpool.

THE DISTRIBUTION OF PLAGUE.

THE weekly return of the Director-General of the Sanitary Department of Egypt shows that for the week ending June 29th there were 3 new cases admitted, of which 1 occurred in a European. The deaths numbered 7, the recoveries 6, and 8 cases remained under treatment. With respect to sanitary measures 14,230 rooms were disinfected and 3714 were limewashed; 136 sacks of effects were disinfected and 1423 sacks of rubbish were burned. The number of rats killed and burned was 960.

THE REGULATION OF THE SALE OF LIQUID DISINFECTANTS UNDER THE PHARMACY ACT.

ACCORDING to a recent order of the Lords of the Privy Council liquid disinfectants are now to be included in the clause of the Pharmacy Act which relates to the dispensing and selling of poisons and liniments, embrocations, and lotions containing poison. That is to say, it is now required by the Pharmacy Act that liquid disinfectants shall be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and that there shall be affixed to each such bottle (in addition to the name of the article and to any particular instructions for its use) a label giving notice that the contents of the bottle are not to be taken internally. This sensible amendment is the result of a resolution of the Pharmaceutical Society made on May 28th, 1902, the Privy Council consenting to it almost immediately. It will be seen that the term "liquid disinfectants" will embrace a very great number of preparations.

THE POSTPONED PROCESSIONS AND THE HOSPITALS.

THE sad and widespread disappointment which the postponement of His Majesty's Coronation inevitably occasioned was felt with peculiar weight by those hospitals the happy situation of which enabled them to offer a large number of seats for spectators. It will be readily understood that besides the natural joyfulness of the occasion an excellent opportunity was welcomed for adding to the funds—never too flourishing—of charitable institutions. Considerable expense was incurred to render those who had bought seats at the hospitals comfortable for the day's sight-seeing and the disappointment which overwhelmed London was thus given an exceptional keenness in the cases to which we refer. It is very pleasant, therefore, to be able to record the generosity with which, on the whole, those who had purchased seats at the hospitals have acted. In the case of St. George's Hospital very many of the purchasers have refused to take back any of their money, many others have accepted only part, and but a very small proportion have availed themselves of the offer of the hospital to refund the whole amount. It is fortunate that the return of Lord Kitchener provides St. George's Hospital with an opportunity that the authorities of the hospital have eagerly seized for repaying in some degree the generosity of the seatholders. Those who have presented to the hospital the full amount that they subscribed for Coronation seats are having seats placed at their disposal for Saturday's pageant, and as far as possible all who contributed any of their money are to be similarly accommodated if they so wish.

WE understand that Sir Frederick Treves on the occasion of his being made a baronet will be described as Sir Frederick Treves of Dorchester and Sir Francis Laking, on receiving the same honour, as Sir Francis Laking of Kensington. Such designations are not, we believe, territorial but are necessary as distinctive marks seeing that there may be baronets who happen to bear the same Christian and family names.

THE annual meeting of Fellows of the Royal College of Surgeons of England was summoned for July 3rd, but only five Fellows attended and as a quorum of 30 is required no meeting was held. The President remained in the theatre for 15 minutes before he could declare that the meeting would not take place. This is the sixth occasion on which no quorum has been present.

THE Epsom College annual prize distribution will take place on Founder's Day, July 26th, at 3.30 P.M. in the big schoolroom of the College, preceded at 3 P.M. by a choral evensong in the College chapel. The Right Rev. the Lord Bishop of Winchester, D.D., will give an address and distribute the chief prizes.

Looking Back.

FROM

THE LANCET, *SATURDAY, JULY 10*, 1824.

ST. THOMAS'S HOSPITAL.

An accident seldom met with, was also brought in, and is now in George's ward. The man in coming down stairs slipt his foot, and in attempting to save himself, he threw his trunk suddenly backwards, and felt something snap at his knee, and on recovering his footing, he found he had no power over the leg. He was carried to the Hospital, and it appears that he has ruptured the tendon of the rectus, the patella is in its situation, its figure is perfect, but there is a hollow, just above it, into which the finger readily sinks, and a defined firm surface can be felt just above the hollow, but it has not the hardness of bone. The leg is secured just in the same way as in the fracture of the patella.

DR. ROBERT HONEYMAN, a Physician, who died on the 21st ult. in Virginia, whither he emigrated from Scotland in 1774, has left the following bequest in his will, dated in 1821:—"I also give and bequeath to my son, *a human rib*, which will be found in a small trunk in my chest, with my earnest request that he will carefully keep the said rib (*which is of James the Fifth, King of Scotland*), and transmit it carefully to his descendants."

BIRTH.

At Martley, in this county, on the 9th of April, Charlotte Rawlins, a married woman, about 36 years of age, was delivered of a male child, totally without arms, legs, or thighs! The child is still living, and appears healthy. There is not to the present time the slightest appearance of the upper or lower extremities; but on the left side, at the part where the thigh usually commences, there is a little process in the shape of a finger, consisting of two small bones united by ligaments, and covered with skin and cellular membrane; the projection has apparently muscles attached to it, as it is constantly moved by the child when it cries or struggles: it is nearly two inches long, thick at the base and runs to a point, having a nail attached to it. The expression of the countenance is not unpleasing. The extraordinary appearance of this child (which in fact is a mere *torso*,) cannot be conveyed by description. It is presumed that there is no case on record at all parallel in the degree of defect.—The father is a labouring man, between 60 and 70 years of age.—*Worcester Journal.*

THE LANCET

Special Analytical and Sanitary Commission

ON THE

IODO-BROMO SALINE WATERS OF SALSOMAGGIORE.

History, Environment, and Climate.

THE remarkable natural waters of Salsomaggiore were known to possess very definite therapeutic properties long before their exact chemistry was brought to light. All that was known was that the waters were excessively saline and many times stronger in this respect than sea-water, but soon it was clear that the marked therapeutic advantages which the water presented indicated something more than the presence of common salt. And chemical analysis has now established the fact that the Salsomaggiore waters possess a wealth of the rarer salines not approached by any other water in Europe. The bromides and iodides of magnesium and the chlorides of strontium and lithium exist in such tangible amounts that there can be no doubt that these contribute considerably to the therapeutic efficacy of the waters. The presence of such enormous quantities of dissolved salts, such as the chlorides of sodium and calcium, in the Salsomaggiore waters as shown by our analysis below renders them of course antiseptic, and doubtless to some extent definite therapeutic effects may be referable to a continuous antiseptic lavage. In that case, however, it might be expected that all waters presenting a simple and similar composition would have the same action, and this to an extent is the case. When, however, the composition is complex the therapeutic indications and applications at once widen. And this is remarkably so with the waters of Salsomaggiore. They not only contain rare salines over and above the ordinary chlorides of calcium and sodium but they are saturated with gaseous as well as liquid hydrocarbons, and these, as we shall show presently, contain impurities of a bituminous nature, and sulphur, an observation which may throw still further light on the excellent results gained in certain therapeutic applications.

The Salsomaggiore waters were undoubtedly known to the Romans as salt springs and as such were regarded as a valuable asset. It was not, however, until 1839 that definite evidence of their therapeutic properties was gained. Dr Berzieri established the value of the waters as a therapeutic agency of distinct merit by showing their favourable action in tuberculous disease, not then specifically recognised, and his first case was one of caries of the bones of the foot. This formed the starting point of the reputation of the Salsomaggiore waters which are employed *inter alia* with encouraging results in all cases of tuberculous lesions, whether of the bones, joints, or skin; in tuberculous enlargement of glands; and in other scrofulous manifestations. But, as we shall point out, a recent visit of our Commissioner to the place has demonstrated that the result of increasing experience has opened a far wider field of therapeutic usefulness for these waters—a fact which has put immense pressure to bear upon the resources of the baths and hotels in the village, a pressure which has led the authorities to provide an increased balneological equipment equal to growing needs and not in any degree inferior to that found in the well-known European spas.

Salsomaggiore is a village of some 2000 inhabitants, situated in the Emilian valley on the eastward side of the Appenine foothills in the province of Parma in North Italy. It is only a few miles west of the main line of railway between Milan and Bologna. The journey by light railway from the station on the main line, Borgo San Donnino, occupies about half an hour to Salsomaggiore. Milan is distant about three hours' journey and the best trains stop at Borgo San Donnino during the season, which is from the beginning of April to the end of October. The most suitable time for English visitors is, however, the spring and the autumn, for in the months of July and August the weather is very hot. In the spring and autumn months the temperature is comfortable and the climatic conditions in general are genial. Salsomaggiore is about 500 feet above the sea level and the surroundings are undulating and picturesque and tree and vegetable growth is very luxuriant. There are many interesting and charming localities in the environment of Salsomaggiore. Views may be obtained over the great blue Lombardy plain, stretching away to the Swiss Alps which can be seen plainly with their snowy tops beyond. The air, though soft, is decidedly bracing. The view given in Fig. 1 was taken from a hill at the east end of the village, showing the Grand Hôtel des Thermes on the right, the Grand Hôtel de Milan and the Terme Magnaghi on the left, and other *alberghi* (hotels), the salt works, and the sanatorium in the distance. The Grand Hôtel des Thermes, which was completed in 1900, is nearly opposite the largest *stabilimento*. There are, however, a number of *stabilimenti*. The Terme Magnaghi are the most important and the best equipped, and they are situated close to the *Pozzo artesiano* (Magnaghi), the artesian well sunk on a piece of land adjoining the Grand Hotel which supplies both the *stabilimenti* and the baths of the hotel. The Grand Hotel contains 300 rooms and is under the joint management of Mr. Ritz of the Carlton Hotel, London, and Mr. Pfyffer of the Grand Hôtel, Rome.

The Water-supply.

The water-supply to the hotel, of which those in the village who choose may avail themselves, is derived from a deep cutting in the chalk of the hills to the west of Salsomaggiore, a few miles away. In Fig. 1 the road leading up to the reservoir will be seen. Great care is exercised to keep this water from contaminating influences. Our Commissioner secured several samples of this water for analysis and for that purpose drew the water from a supply tap. There are two sources of water-supply but the character and quality of both waters are the same. As will be seen from the results of analysis the water-supply is of excellent quality and character. It is of a very high degree of purity with not a trace of organic impurity. Indeed, there is a singular and complete absence of nitrogenous matter in any form—practically no nitrates and no ammonia, saline, or albuminoid, only a little carbonate and sulphate of lime. The colour is a pure transparent bluish-green. The results of analysis were as follows:—

Analysis of Salsomaggiore Water-supply.

Appearance	Bright and without sediment.
Colour in 2-feet tube ...	Bluish green, like distilled water.
Taste	None.
Smell	None.
Reaction	Slightly alkaline.
Free ammonia	None.
Albuminoid ammonia ...	None.
Nitrogen in nitrates and nitrites	Trace.
Chlorine in chlorides ...	0·56 grain per gallon.
Equal to common salt ...	0·91 grain ,,
Phosphates	Slight trace.
Total hardness	19·68 grains per gallon.
Permanent hardness ...	5·50 ,, ,,
Temporary...	14·18 ,, ,,
Oxygen absorbed in one hour	Inappreciable.

The water-supply of Salsomaggiore is abundant and its striking purity as displayed in the analysis is a matter for congratulation. It ranks amongst the purest potable waters known.

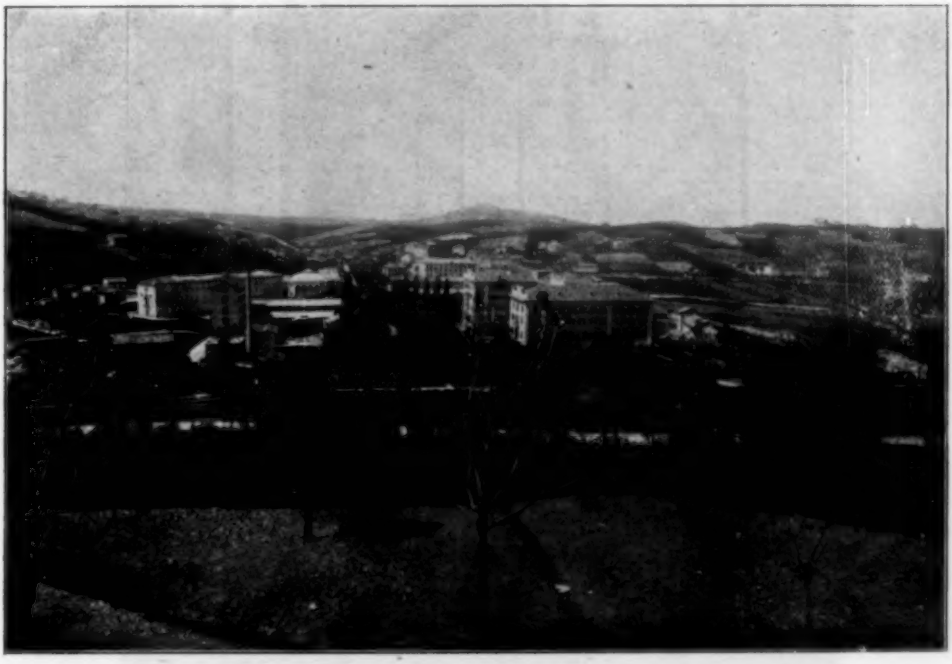
The Bathing Establishments and Balneo-therapeutic Methods.

As already stated, amongst the chief *stabilimenti* are the Old, the New, and the Terme Magnaghi, which, being the last to be constructed, are the most modern in design as they are the most commodious in the village. They are fitted throughout with the electric light, so the current may be used for many other purposes and as an adjunct to hydro-therapy. There are an x-ray room, a high frequency apparatus, and an apparatus for the application of the ultra-violet rays. Photo-therapy, electro-therapy, hydro-therapy, and, as we shall point out presently, mechano-therapy are thus associated. A view of the establishment, which is at the present time undergoing considerable further enlargement, is afforded in Fig. 1. A tall shaft which will be noticed on the left serves to locate it.

This chimney is connected with machinery employed for raising steam, for pumping water, for working the inhalation and spray apparatus, and for other purposes. It is not a little remarkable to find in a mere village remote in the Alps a commodious bathing establishment containing all the modern scientific appliances used in balneo-therapy and to find, also, in practice the most modern methods of affording supplementary treatment. Members of the medical and surgical staff, both English and Italian, are constantly in attendance. Rooms are provided and are fitted with all the modern surgical appliances for minor operations or examinations. There is adequate provision for massage, skilled masseurs and masseuses being retained for the purpose. The comfort of the patient has been very carefully studied in all particulars and there is a lift to every floor. A staff of skilled attendants is kept. The baths are of special composition, resisting the corrosive action of the water, and most minute antiseptic precautions are taken to insure the cleanliness of the bath and of the linen used in connexion therewith for each bather. The bath is washed out with this graduated system of administration. The duration of the bath is from a quarter of an hour to three-quarters of an hour and the temperature varies from about 34° to 39° C. As a rule the density of the saline bath seldom exceeds 1096, and as the density of the natural water is, according to our examination made on the spot, 1120, it is a simple matter to obtain the requisite lower density. The composition of the bath may be varied, however, in many ways—for example, the *acqua madre*, or mother liquor, may be used in special cases in which it is considered that a richer proportion of lithium chloride or of the iodide and the bromide is desirable. This concentrated liquor is obtained by the evaporation of Salsomaggiore water in large flat basins, the salt being removed as it crystallises. By proceeding in this way the rarer salines, which are more soluble than common salt, are concentrated.

In addition to a very complete equipment of baths the Magnaghi establishment contains also rooms set apart for providing means of inhaling the waters—a system which forms a novel and very important feature of the treatment

FIG. 1.



View of Salsomaggiore looking to the West.

creolin for each occupant and all the linen and towels are sterilised in a steam disinfector and washed also in a weak solution of corrosive sublimate. Similar antiseptic precautions are taken with respect to the walls and floors of the building, and altogether an admirable regard as to conducting the establishment on strict hygienic principles is shown.

The course consists of a daily bath in the natural mineral water for about three weeks, according to the indications of the patient. Some may take a bath every day with comfort, while in other cases it is found that the bath must be taken on alternate days or suspended for a time. This course becomes necessary owing to the marked therapeutic action of the water. Again, an excellent system is adopted by which the patient is gradually introduced to the full strength of the water. This method of educating, so to speak, the patient to the effects of the water is one that must be generally approved and one which is obviously sound in principle. With such a wealth of powerful salines as are contained in the Salsomaggiore waters a system of graduation is imperative. Undoubtedly mischief might be done by disregarding at Salsomaggiore. For the purpose of inhalation two methods are employed. In the first the patient sits in front of an atomiser operated by steam power, projecting the mineral water in a fine vapour from a given quantity of the water contained in a sterilised bottle below. The system will be understood from Fig. 2 and is known as Siegle and Pirey's system. Here again the water is used in different strengths according to the needs of the patient and this system of graduation is carefully adhered to throughout the establishment so far as individual cases are concerned. It is noteworthy, and we shall return to this point, that in the inhalation room a smell pervades the atmosphere recalling that of iodoform. There is no doubt that small quantities of free iodine and perhaps free bromine exist under the conditions of the system. At any rate, light and air, or both, liberate iodine from Salsomaggiore water. For the purpose of inhalation by Siegle and Pirey's system the *acqua madre* is employed of a specific gravity varying from 1014 to 1057. As will be seen from the illustration (Fig. 2), the patient, wrapped in a waterproof cloak, i seated in front of the spray producer and bottle. The patien

inspires the fine vapour for from 10 to 15 or even 30 minutes. Presently will be described the therapeutic indications of this particular form of inhalation. Suffice it now to add that this method, coupled with another which we will next discuss, is assuming great importance, constituting a departure in the administration of natural mineral waters which is yielding very interesting results and deserving of special attention.

In Jännigen and Beiselen's system the spray is exceedingly fine, like mist, and is made to occupy the whole of the space of a room large enough to admit of exercise being taken, if need be, at the same time. This system becomes intelligible from an inspection of Fig. 3, in which the patients are shown in a large room muffled in white *peignoirs* and their heads wrapped in white cloths, walking about, sitting down, talking, or it may be carrying out gymnastic exercise, such as riding a stationary bicycle, or taking exercise on a mechanical horse, or pulling the sculls of a mechanical rowing-boat. Exercise in increasing the circulation promotes the absorption of the saline vapour. In this case the natural Salso water at a density of 1057 is pulverised by a special apparatus shown at the upper part of the illustration a little to the left. The odour in this room is strongly suggestive of an iodo organic compound as well as oily. So encouraging in many cases are the results of treatment by this system that an entirely new building is being constructed for the purpose which will afford considerably greater accommodation. This system is increasing in favour.

The Pozzi (Wells) at Salsomaggiore.

There are quite a number of wells (*pozzi*) in Salsomaggiore but they obviously tap one origin, for the composition of the water is practically the same from whatever well it is drawn. Formerly, and at the time when the waters were only valued for the common salt which they contained which was crystallised out by a process of evaporation and sold for ordinary purposes, the water was pumped from shallow wells, but now some *pozzi* are over 2000 feet in depth. The Pozzo Artesiano Magnaghi is a deep well which supplies the Magnaghi establishment and the Grand Hôtel des Thermes. As already pointed out, the wells are remarkable in yielding at the same time gas, oil, and mineral water. At times there is a considerable disturbance of the water owing to the sudden discharge of gaseous hydrocarbons, the chief of which is methane. So great is this disturbance on occasions that a tall wooden shaft or canopy is erected over the well to avoid any unpleasant consequences of overflow arising from the inflammable nature of the gas or the oil. In Fig. 4 is depicted the Pozzo Artesiano Magnaghi over which a shed has been constructed to cover the pumping machinery and the reservoirs. The mouth of the well itself will be seen at the end of the shed with a ladder resting against the wall of the well. The pump, though at present of a somewhat archaic description, the arm on the crank being made of wood, answers its purpose well. The pump is driven by a gas-engine shown at the right of the picture, the gas being

FIG. 2.

Siegle and Pirey's system of inhalation.

derived from the well itself. On the floor of the shed will be noticed a square area of illuminated ground which is the light coming from the shaft over the well already described. Viewed from the outside this shaft resembles in appearance the hop cones seen in Kent.

The Nature of the Oil and Gas.

The gas escapes by a pipe at the top of the well directly into a gas-holder, whence it is distributed without any purification whatever for lighting and heating purposes. It contains two-thirds methane and a third ethane with heavy hydrocarbons and carbonic acid gas. The amount of natural gas evolved is sufficient to supply the street lighting of the village and to drive gas-engines where power is required. A litre of the water holds about 20 cubic centimetres of this gas in solution, but the ratio of methane to carbonic acid gas is about equal volumes. The water and oil flow together into a small tank where the latter is separated by the simple expedient of decanting. Of course, there is a great difference between the specific gravity of the water and the oil. According to our observations the specific gravity of the oil is 0 840, so that it rapidly rises to the surface. The oil has exactly the smell of common paraffin or light petroleum. By transmitted light it has a clear dark-brown colour, but by reflected light it exhibits a marked green fluorescence very like that of uranine. We have submitted this oil to fractional distillation. It first shows signs of boiling at 150° C., and fully one-half of the oil distils below 200° C. The rest showed no sign of distilling at 250° C., and at that point notable quantities of sulphuretted hydrogen were evolved. The oil contains bituminous bodies and sulphur but apparently neither iodine nor bromine. We found, however, as might be expected, that it readily absorbs iodine and bromine. This observation is of some importance, for though we failed to find any appreciable quantity of iodo- or bromo-oils present, yet on exposing the mixture as it comes from the well to light and air iodine is liberated and afterwards in part absorbed by the petroleum. Again, when the water is reduced to an exceedingly fine spray, as in the inhalation room in the presence of light and air, iodine is also liberated, as demonstrated in our experiments, and since the natural water contains some oil there is no doubt that traces of iodo-oil are formed. We found further that when iodine was added to the natural oil of Salsomaggiore and mixed with water and atomised the resulting spray had identically the same iodous smell as that which characterises the inhalation room at the Terme Magnaghi. This interesting experiment has an important bearing on the therapeutic effect of natural Salsomaggiore water as administered in the form of a respirable spray. Again, the presence of sulphur in the oil as determined by our experiments is probably another important therapeutic factor.

The Water of Salsomaggiore and its Analysis.

The water is brownish in colour and greasy looking and smells unmistakeably of common paraffin oil. Its brown turbidity is due to the separation of ferric oxide. The temperature of the water as it issues from the well is, according to our observations, exactly 20·5° C. and its density at 15·5° C. 1120. For the purpose of analysis samples were secured and sealed on the spot by our Commissioner and despatched to THE LANCET Laboratory. Subsequently a consideration of the results gained has led to the probability of the amount and kind of salts present being as follows:—

FIG. 3.

Jännigen and Beiselen's system of inhalation.

The Analysis of Salsomaggiore Natural Mineral Water.

Sodium chloride	146·2940	grammes per litre.
Calcium chloride	15·2375	,, ,,
Magnesium chloride ...	5·0861	,, ,,
Ammonium chloride ...	0·6000	,, ,,
Strontium chloride	0·5000	,, ,,
Lithium chloride	0·6399	,, ,,
Strontium sulphate	0·4868	,, ,,
Magnesium bromide ...	0·3022	,, ,,
Magnesium iodide	0·0664	,, ,,
Ferric oxide	0·1000	,, ,,
Total mineral constituents	169·3129	grammes per litre.

Spectroscopic examination gave a pretty array of luminous bands, the presence of sodium, calcium, strontium, and lithium being easily demonstrated in this way. The spectrum

of the rarer elements was more marked with the *acqua madre* or the concentrated water. The striking features of this analysis are the important amounts of bromine, iodine, strontium, lithium, and ammonium salts, the presence of which in such remarkable quantity marks the waters of Salsomaggiore from other saline waters of the same class. The lithium chloride thus exceeds over 40 grains per gallon or five grains per pint, while the bromine is no less than nearly 20 grains per gallon and the iodine amounts to over four grains per gallon. It is doubtful whether other mineral waters show such a richness of these comparatively rare constituents. The proportion of certain of these saline constituents is, of course, raised by concentration, while the common salt is lowered on account of its separation and removal by crystallisation on evaporation. The process of concentration is carried on at the salt works at the lower end of the village and not far from the railway station. The actual site is marked in the illustration (Fig. 1) by a chimney shaft which will be seen just below a far-off hill in the middle of the picture. The water is concentrated to various degrees of density so as to leave a wide choice to the physician as to the strength which he deems it desirable to administer to the patient. *Acqua madre* is contained in sterilised bottles of the description shown on the bench in Fig. 2. To facilitate the separation of the iron and to remove also some of the calcium and magnesium salts carbonate of soda is sometimes added to the natural water before concentration. If a sufficient quantity of carbonate of soda is added the calcium salts can be almost completely removed. The water would then contain in solution common salt with the rarer salines. Common salt being crystallised by evaporation and removed another liquor is obtained very rich indeed in lithium, iodine, and bromine. The strongest *acqua madre*, according to our examination, exhibits a density of 1270. Unlike the natural mineral water, it is bright and clear and without sediment and does not contain iron or any sulphate. Our complete analysis of *acqua madre* was as follows:—

The Analysis of "Acqua Madre."

Sodium chloride	45·8581 grammes	per litre.
Calcium chloride	221·5560 "	"
Magnesium chloride ...	73·7200 "	"
Strontium chloride	11·5500 "	"
Ammonium chloride ...	2·0972 "	"
Lithium chloride	8·7853 "	"
Magnesium iodide	1·0008 "	"
Magnesium bromide ...	4·8355 "	"
Sulphate (probably of strontium)	traces.	
Ferric oxide	*Nil.*	
Total saline constituents	389·4029 grammes	per litre.

It will be seen from this analysis that the constituents, except of course the common salt which is removed by crystallisation, bear practically the same ratio to each other as in the natural mineral water, and since these occur in about 15 times the quantity the concentration amounts, in this instance, to the reduction of 15 volumes of natural mineral water to one volume. *Acqua madre* is exceedingly rich in lithium, bromine, and iodine. Expressed in English equivalents the lithium chloride amounts to no less than 614 grains per gallon or nearly 80 grains per pint, and the bromine to 294 grains per gallon or nearly 37 grains per pint, and the iodine to 64 grains per gallon or eight grains per pint. There is no mother liquor derived from a natural mineral water which in our knowledge is richer in the rarer salts than this, and certainly no other water shows a more interesting composition from a therapeutical point of view than the natural waters of Salsomaggiore or presents such an interesting chemistry.

The Therapeutics of Salsomaggiore Water and Indications.

It is not surprising, in view of the chemistry of the Salsomaggiore water as revealed in the foregoing analyses, that it is possible to open a wide field of therapeutic application and usefulness. Chemistry, however, does not always throw a sure and certain light on the action of certain waters; indeed, there are notorious instances in which very little clue is afforded at all by the facts of chemical composition. In Salsomaggiore water, however, the presence of very definite salts and substances which are of known value therapeutically is readily established by chemical analysis. How far the action of these substances is modified or accentuated by the particular way in which they are grouped in a natural mineral water is difficult to determine. We can only rest on the actual evidence of clinical experience and in many instances that is often problematical, for good results are often obtained when not anticipated and *vice versâ* unsatisfactory results are sometimes obtained when good might reasonably have been entertained. Balneo-therapy is not so completely understood as to enable us to formulate exactly why certain conditions are relieved by this, that, and the other water.

A systematic and practical study of the action of the Salsomaggiore waters administered either in the form of a bath or inhalation was begun several years ago by an efficient medical staff. We may record the experiences that have been so far gained, and we are indebted to Dr. G. Sandison Brock of Rome, who has had ample opportunity of studying the action of the waters and of devoting special attention to the large number of cases constantly under treatment at Salsomaggiore, for the substance of the clinical observations that follow. We have already referred to the fact that the first recorded case of the therapeutic application of Salsomaggiore waters was that in which Dr. Berzieri in 1839 was induced to submit a patient to treatment who was suffering from caries of the bones of the foot, which was no doubt tuberculous in origin. It is freely stated that Dr. Berzieri's idea was that Salsomaggiore water might be substituted for sea water. The result was a striking success and the reputation of the waters in regard to their favourable action in cases of tuberculous lesions, in tuberculous enlargement of glands, or in other scrofulous manifestations steadily spread until at the present time Salsomaggiore enjoys an almost unique position in regard to the benign effects of its waters in cases of this class. It is interesting in this connexion to point out that the efficacy of the treatment became so well known and so firmly established that the various communes in Italy, at their own cost, have been accustomed to send parties of poor patients for treatment every three weeks to the sanatorium. The result has evidently been so encouraging that patients have presented themselves again of their own accord as relapses of their old maladies or fresh symptoms have led them once more to seek relief. Of course, change of air and environment must be ever factors in balneo-therapy, but these cases must be considered as amongst the most promising of those indicated for the Salsomaggiore treatment.

The alterative and absorbent effects of the water which are at the root of the successful treatment of scrofulous affections soon suggested an extension of the use of the waters to all affections where in connexion with some localised morbid process there existed open sores or sinuses or inflammatory swellings, and especially exudations. Thus might be expected to yield to treatment with the Salsomaggiore waters those maladies which are due to what is now recognised as the result of infection by specific germs other than that of tubercle, especially in their later or chronic stages when the acute inflammatory period has disappeared. Naturally in this category come the later stages of syphilis, both the secondary manifestations in skin, mucous membrane, and periosteum, and the tertiary effects in bone and the organs, gummata, necrosis, &c., and also the sequelæ of gonococcic infection, whether in the form of inflammatory infections of the genital organs as in orchitis, endo-, para- and peri-metritis, salpingitis, oöphoritis, or the general rheumatoid arthritis and infective lesions of serous membranes often seen as sequelæ of the gonorrhœal infection. Under special circumstances the irrigation of the uterine cavities with the water of carefully graduated strength is valuable.

As to the acute stages of inflammatory diseases it is stated that in the experience of some the Salso waters are contra-indicated. Dr. Brock, however, records a case of gout which yielded so favourably to treatment as to give an opposite inference. The acute condition was, he states, distinctly relieved by the baths and acute rheumatism has been treated with similar success. It is probable that by graduating the baths in the way which we have already described the Salsomaggiore treatment would be helpful and not harmful. It is agreed, however, that the acute stage once over great benefit is derived in the treatment of the sequelæ or of any of the results of inflammation that may have persisted. In this regard might be mentioned the after-effects of appendicitis and peritoneal inflammations attended, or followed by, exudations, chronic pleurisies, synovitis, arthritic troubles, or bony enlargements following fractures; in fact, any chronic inflammatory process accompanied by pain, swelling, or deformity and stiffness which call for the soothing, stimulating, or absorbent effects of the

waters or application of the mud deposited from them. The mud, we should add, is a soft clay deposit found in the reservoirs; it has a marked soothing effect. The mud is saturated with the salines of the water and contains also an appreciable amount of the petroleums. It is greasy to touch. When heated and applied daily after the manner of a poultice for from 20 minutes to half an hour round the affected part it allays pain, reduces swelling, and renders supple stiffened muscles and ligaments. In this way it has been employed with excellent results for chronically inflamed joints, enlarged glands, and painful periosteal swellings, and relief is also obtained by its application in painful gouty and rheumatic affections of nerves, especially where there is a localised neuritis.

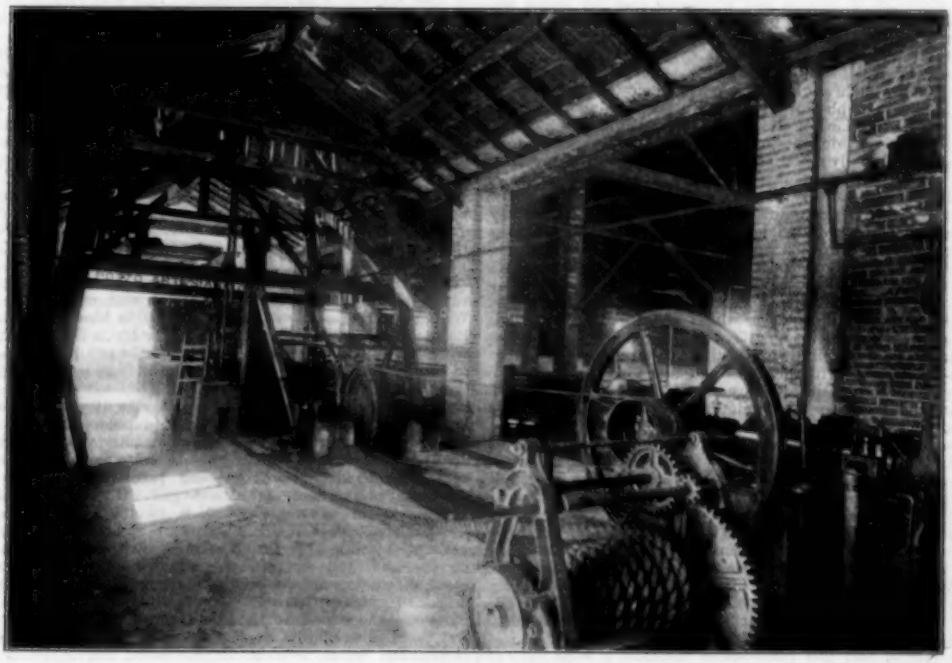
The baths give very satisfactory results in arthritis consequent upon acute rheumatism or in relapses of that disease, and the same is true, though perhaps less emphatically so, in gouty affections. In these cases the baths exercise a soothing and absorbent effect, increasing tissue metabolism and the activity of the secretions and excretions and thus enabling the system to dispose more readily of waste products through the skin, the lungs, and the kidneys. Some interesting observations on these points have been made by Dr. Luigi Zoja in his "Studi Preliminari sull' Azione dei Bagni Salsi (Acque di Salsomaggiore)." Dr. Zoja has also made some observations on the cutaneous absorption of iodides in the baths and has contributed also a further interesting study on the reduction of the body weight by treatment with Salsomaggiore waters.

In view of the stimulating and purifying action of the Salsomaggiore waters it is not surprising to find that they are beneficial in neurasthenic and anæmic cases even without the simultaneous employment of the usual hæmatinics. Thus it happens that incidental complaints are relieved in patients who had presented themselves for treatment for some other malady. In one instance, a case of rheumatism, while much benefit was derived and pains and stiffness ceased by the use of the baths and inhalations, the patient noticed that the loss of hair which she had been steadily sustaining for some time suddenly stopped. As we have pointed out, the waters at Salsomaggiore are saturated with gaseous and liquid hydrocarbons and these latter contain sulphur in organic combination. Although the benefit derived was probably of a constitutional origin, yet it is just possible that these interesting facts were contributory to the relief. Other incidental cases of interest are those in which women have been cured of sterility although they had come for the Salsomaggiore treatment for the relief of other ailments; but here, of course, the *modus operandi* may differ widely in different cases according to the cause of the condition. Functional disorders, such as constipation, irregularity of the catamenia, &c., have been noticed to disappear and appetite to increase and the ability to sleep to return.

The Inhalation of Salsomaggiore Water Reduced to Spray.

Special attention has already been directed to a somewhat new departure in balneo-therapeutic practice, consisting in the application of the water in the form of inhalation, a method which is pursued with considerable success at Salsomaggiore. Indeed, the inhalations at Salsomaggiore form a very important and interesting feature in the treatment and have proved a most valuable adjunct to the ordinary course of waters. We have already described the two systems of inhalation employed. In one case a spray is produced for the throat passages and in the other case the space of a room is filled with an exceedingly fine mist of the natural water. The patients, in fact, live for the moment in a Salso fog, inhaling the water in the form of vapour and exercising themselves, it may be, in order to gain the greatest advantage, for with increased circulation the absorption is speedy. There is good reason for concluding that the various salines in the vapour are readily absorbed by the mucous membranes. The use of these inhalations is, at any rate, becoming very general amongst bathers. There seems to be little doubt that during a prolonged stay in the inhalation room the salines, including iodine and bromine and probably traces of halogen, organo-bodies derived from the oil, actually enter the blood and subsequently exercise a distinct influence upon morbid processes in the body. The inhalation method is thus a rapid and

FIG. 4.



The pozzo artesiano (Magnaghi).

effectual means of conveying the therapeutic properties of the natural water. At any rate, it is certain that by direct contact of the waters, whether by a spray or by means of the pulveriser of the inhalation room, excellent therapeutic results are obtained in local affections of the respiratory mucous membrane. Amongst respiratory affections thus frequently treated at Salsomaggiore with the most favourable results are coryza, chronic rhinitis (both the hypertrophic form and that accompanied by atrophy and the ozena-producing organism), chronic pharyngitis (especially the granular type), and laryngitis. The irritation of the mucous membrane is soothed, congestion and swelling are reduced, and tough inspissated mucus is liquefied or loosened and a natural healthy condition of the moist surfaces is gradually induced. When the lower part of the respiratory tract is involved, as in chronic bronchitis and bronchial asthma, a prolonged stay in the inhalation room is frequently productive of good.

Summary.

To sum up, Italy possesses a wealth of natural mineral and gaseous waters, but none are more remarkable than the waters of Salsomaggiore. These are unique, not only in containing an unusual amount of the rarer salines such as the chlorides of lithium and strontium and the iodide and bromide of magnesium, but also gaseous and liquid hydrocarbons. It is well known how often the therapeutic efficacy of a given element is increased by being associated with organic groups. Mention need only be made of the organic compounds, such as lecithin and glycero-phosphoric acid, containing phosphorus, of thyroidin containing iodine in organic association, of the cacodyls containing arsenic, and the haemoglobin derivatives, and the albuminates containing iron. Undoubtedly the organic association of iodine, bromine, and other inorganic elements in Salsomaggiore water is contributory to a very important extent to the remarkable successes which are gained in the treatment of so many maladies at this favoured health resort. The natural waters of Salsomaggiore are sharply distinguished from other natural mineral waters in presenting this organic association, and, moreover, they possess a degree of mineralisation, including the salts of rare alkalies, not exceeded by any other water. This is shown in the analyses which we have made, which, as far as we know, are exhaustive. We have demonstrated that in contact with air and light Salsomaggiore water yields up some of its iodine in the free state and that the element so liberated is in part absorbed by the oils forming an iodinated compound with marked iodous odours which recall the iodoform series and which it is reasonable to suppose is an important factor in treatment, especially by the method of inhalation. We believe that we are the first to direct attention to this fact and also to the existence of an important amount of sulphur in the oil.

It may be added that the analyses made in THE LANCET Laboratory confirm in regard to the main points the analyses made in 1899 by Professor Nasini and Professor F. Anderlini of the chemical laboratories of Padua University. The water when fresh from the well does not contain any appreciable amount of free iodine or iodinated oil, but both are found after it has been in intimate contact with air and light. The water is constant in chemical composition and this composition indicates a wide field of therapeutic efficiency—a field which is still open for further exploration. Very important clinical evidence has, however, been gained which has established the value of the water in well-known and prevalent morbid conditions. These have been pointed out.

We have ascertained, and have placed the analysis here on record, that the water-supply of Salsomaggiore is remarkable for its purity and excellent steps are taken to protect this purity. Moreover, a factor of the utmost moment in balneotherapy, Salsomaggiore has a charming environment and a pure and bracing air. The comfort of the patient is provided for in a number of excellently appointed hotels, and the course of waters is enlivened by amusements of all sorts. There are a theatre, a *café chantant*, and a music room, and outdoor and indoor sports and pastimes are encouraged. Our Commissioner has been impressed with what he has seen at this rapidly rising hydropathic resort, and it is satisfactory to be able to state that the authorities have striven hard to place their *stabilimenti* on a thoroughly sound and scientific basis, consistent with the requirements of a locality in which great numbers every year seek to regain health and vigour by the treatment. So well directed have these efforts been, and so high is the standard of balneo-therapeutic practice adopted there, that Salsomaggiore bids fair to take a well-merited place in the front rank of European health resorts.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary meeting of the Comitia was held on July 4th, Sir W. S. CHURCH, Bart., K.C.B., the President, being in the chair.

The PRESIDENT announced that after paying expenses connected with preparations for viewing the procession in connexion with the Coronation, which had unfortunately been postponed, there remained a balance to the Fellows of £122 13*s.* 6*d.* This sum he suggested should be put aside as a nucleus around which he felt sure a fund would speedily accumulate and which should be devoted to obtaining a portrait of the King. This would be an appropriate way of commemorating an exceptional event and also the connexion of His Majesty with the College. This was formally proposed and seconded by Sir JOSEPH FAYRER, Bart., K.C.S.I., and Dr. F. W. PAVY and was carried unanimously.

A letter was read from the Royal College of Surgeons of England adopting with some slight alterations the scheme of cancer research. This was adopted as modified and it was moved by Dr. NORMAN MOORE and seconded by Dr. FREDERICK TAYLOR, that the College give the instructions recommended for the immediate nomination of the members of an executive and general committee to carry out the scheme.

A report was received from the Special Conjoint Finance Committee, dated June 30th, on the arrangements for the occupation of part of the laboratories by the Army Medical Department for three years at an annual rent of £1050. This was adopted.

A letter was read from the Dowager Lady Jenner conveying to the College, according to the wish of the late Sir William Jenner, a silver vase presented to him by His late Royal Highness the Duke of Albany. Sir DYCE DUCKWORTH, seconded by Dr. WHIPHAM, moved that the gift be gratefully received and that the thanks of the College be returned to the donor.

Communications were received from the Royal College of Surgeons of England reporting certain proceedings of the Council on May 8th and also on June 18th and conveying an invitation to the College to join them in appointing a committee to decide whether any practicable scheme of common examinations can be arranged with the University of London for the degree of M.B. of the University and the diplomas of L.R.C.P. Lond. and M.R.C.S. Eng. Dr. LIVEING moved, and Dr. WHIPHAM seconded, that these be received and entered on the minutes. There was some discussion on this subject and the committee nominated to confer with nominees of the Royal College of Surgeons and report to the Comitia were: Dr. G. V. Poore, Dr. P. H. Pye-Smith, Dr. T. Clifford Allbutt, Dr. Norman Moore, Dr. W. H. Allchin, Dr. Frederick Taylor, Dr. J. K. Fowler, and Dr. F. J. Smith.

Reports were received dated June 2nd and 9th from the Committee of Management. They included (1) the revision of the list of recognised institutions for instruction in chemistry, physics, and practical chemistry; (2) the recognition of science institutions; (3) the proposed tramway on the Victoria Embankment; and (4) the revised regulations of the University of London in regard to matriculation. In connexion with this matter the committee recommended following the lead of the University in preliminary examinations.

A report from the Laboratories Committee on the general and bacteriological work was received and adopted, as was also the quarterly report of the examiners on the April examinations. The enactment for the second time of a by-law to admit two Members to the Fellowship *in absentiâ* was agreed to.

WE are asked to draw attention to a change of title in the *Nursing Record*, which will now be issued as the *British Journal of Nursing, with which is incorporated the Nursing Record.*

YELLOW FEVER IN EUROPE.

THERE has just arrived from Washington a fairly extensive report issued by the United States Marine Hospital Service of the Treasury Department on yellow fever in France, Italy, Great Britain, and Austria. It is a report upon which it is safe to say that much labour has been spent, for not only does the official who is responsible for its authorship—Dr. J. M. Eager of the Marine Hospital Service—devote his researches to the whole of the last century but there is a bibliography of books issued during the same period. Curiously enough, not a single American work is included in this list.

The earliest account we have of yellow fever in Europe is a case that is noted of importation of this disease at La Rochelle in the middle of the year 1700. Mention of this is to be found in a history of La Rochelle by Arcere published in 1756, but nothing can be got in the way of corroboration of this report. This, as we have said, is the earliest reported case of yellow fever in Europe; and the first authentic record comes also from France, the date of the outbreak being 1802. The French fleet was the means of conveying the pestilence to its own country, for when five vessels of the line, commanded by Admiral de Joyeuse, came into the roads from San Domingo it was the Admiral's unpleasing duty to notify that among the crews of his small fleet 42 persons were in the active stages of the fever and there were an equal number of convalescents. Of the sick crew, who were all disembarked at the lazaretto at Tiberon, 32 died. Luckily it was well into the autumn, and apart from the Customs officials, some of whom had been on board one of the vessels, the *Tourville*, no mortality was reported ashore, a circumstance which is probably due to the fact that at Brest were several medical men who had been in the West Indies who insisted on the strongest sanitary measures being taken. The next outbreak of yellow fever in France was traceable to the epidemic which broke out in Spain, the date of both being 1821. What might have been a very serious epidemic for Marseilles was only averted through the fact that the famous Professor Palloni, who had been through the very bad epidemic of 1804 at Leghorn, was in Marseilles at the time and so prompt and thorough were the precautions upon which he insisted that the deaths, in spite of the big trade between Barcelona and Marseilles, were comparatively few. Passing by the minor epidemic of 1839 at Brest we come to what Dr. Eager calls the "only important epidemic that ever broke out in France." It occurred at Saint Nazaire. Melier, who carefully observed and recorded the epidemic, concludes that it was determined by mosquitoes infected at Havana and carried to France in the hold of a vessel. There are several interesting data to be noted in connexion with this case. The first is that yellow fever was noticed on the ship (the *Anna Maria*, with a crew of 16) 18 days after leaving Havana. She had been delayed by head winds and had to drift about the Straits of Florida for some time. Two seamen were taken ill simultaneously and died within a few hours of each other on the fifth day of their illness. At the time of their death there were seven other persons, including the captain, down with yellow fever, but quinine and cathartics cured them. In the whole ship there were nine cases of sickness and two deaths, and 20 days after the last death the ship entered the port of Saint Nazaire. As no case of sickness had been noted for 10 days she was at once given *pratique*.

Then the epidemic started. Two boats that were lying near the *Anna Maria* lost men, the inception of the epidemic being seven days after the *Anna Maria* entered the port. One of the two boats already mentioned had sailed for Indret—a place 25 miles above Saint Nazaire—and it was there that the attack broke out. On the same day, or eight days after the arrival from Havana, the first officer of the *Anna Maria* himself was laid low; he died in 60 hours. Five stevedores who had been handling the *Anna Maria's* cargo died in four days; a harbour-master who had been 260 metres away from the boat or anyone connected with it all the time fell ill; and several of the inhabitants also got the disease, mostly with fatal results. Of all the boats anchored near the ill-fated *Anna Maria* not one escaped contagion. Indeed, speaking of vessels, the *Anna Maria* infected seven, on which there were 40 cases of yellow fever and 23 deaths. And following this epidemic there were reports of the importation of the fever to French Mediterranean ports and also ports on the west and north. Fortunately, there was no diffusion of the disease.

The outbreak of yellow fever at Leghorn in 1804 has already been referred to above. Strange to say, a vessel named the *Anna Maria* was also on this occasion the means of bringing the scourge to Europe. At that time the population of Leghorn was 60,000, of whom no less than 7000 fled to Pisa. How many of those that remained died from the fever it is difficult to say, but the number must have been very considerable. Lacoste estimates it at no less than 1900, Coppie says it was 1500, and Palloni says it was 700. What is certain is that, curiously enough, the mortality was highest in the November of the year, the fourth and penultimate month of the epidemic.

England has happily been practically free from this awful scourge. Dr. Eager is able to give five well-authenticated instances of outbreaks of yellow fever in English ports during the past century. They were as follows, put quite briefly: 1817, Liverpool, cotton brig from America; outbreak confined to crew; no deaths. 1852, Southampton, a steamer from Saint Thomas; 14 cases; seven deaths. 1857, Southampton, the same steamship that was suspected of having been the cause of a very severe epidemic at Lisbon entered the harbour; a few cases of yellow fever; no deaths. 1864, Southampton again; no full details. 1865, Swansea, boat from Santiago de Cuba; 15 deaths amongst the crew; mortality on shore *nil*.

The bibliography at the end of the report, mentioned already, is singularly incomplete but interesting. It includes books published over the period 1789–1901; the works are mostly in Spanish or, as in the fashion of the earlier days, in Latin. The only book in our own tongue was published in 1804; it is by Valerio Arditi.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN extraordinary meeting of the Council was held on July 2nd, Sir HENRY G. HOWSE, the President, being in the chair.

The following resolution was passed:—

The Council hereby offer their hearty congratulations to Sir Henry G. Howse, President, and Sir Alfred Cooper on being knighted by His Majesty, and to Sir Frederick Treves on having received the honour of a baronetcy.

On the recommendation of the Committee of Management it was resolved to lease to the Army Medical Department some rooms at the Examination Hall for the purpose of a medical school.

It was resolved that an examination in Parts I. and III. (Chemistry and Biology) of the First Examination of the Conjoint Examining Board shall be held at some provincial centre as well as in London and a scheme was approved for this purpose. The first examination will be held in January next.

The following Cancer Research Scheme was approved and it has since received the approval of the Royal College of Physicians of London:—

I.—*Objects of the Fund.*

1. To provide, extend, equip, and maintain laboratories to be devoted to cancer research.
2. To encourage researches on the subject of cancer within the United Kingdom or in the British dominions beyond the seas.
3. To assist in the development of cancer research in various hospitals and institutions approved by the Executive Committee.
4. And generally to provide means for systematic investigation into the causes, prevention, and treatment of cancer.

Should the objects of the Fund be attained by the discovery of the cause and nature of cancer, and of an effective method of treatment, the Royal Colleges, with the consent of the Trustees, shall be empowered to utilise the fund, (*a*) for equipping with the necessities for such treatment such hospital as they may select, or (*b*) for forwarding research into other diseases.

II.—*The President, Vice-Presidents, Trustees, and Treasurer.*

1. The future Presidents shall be appointed by the General Committee.
2. The future Vice-Presidents shall be appointed by the General Committee.
3. There shall be five trustees of the Fund.
4. Of the first trustees three may be nominated by the donors of sums of £1000 and upwards and one each by the Royal Colleges of Physicians and of Surgeons.

5. In the event of vacancies occurring by death, resignation, or other cause, the General Committee may nominate new trustees and shall be called upon to do so in case the number shall fall below three.

6. All moneys other than annual grants or subscriptions, or sums specially given for definite objects or under special conditions, shall be invested as capital in the names of the trustees.

7. The trustees shall pay over to the account of the Executive Committee all dividends on the invested trust funds as they fall due.

8. If in any year the income derived from the invested capital is insufficient to defray the expenses authorised by the Executive Committee the trustees shall, at the request of the Executive Committee, realise sufficient funds to raise such sum as may be requisite to cover such deficiency.

III.—*General Committee.*

1. The General Committee shall consist of: (*a*) The President; (*b*) the Vice-Presidents; (*c*) the five trustees; (*d*) the honorary treasurer; (*e*) the Executive Committee; (*f*) one member to be nominated by the Local Government Board; (*g*) one member to be nominated by the Colonial Office; (*h*) one member to be nominated by the Royal Society; (*i*) one member each nominated by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, the Royal College of Physicians of Ireland, and the Royal College of Surgeons in Ireland; (*j*) one member each nominated by the Royal Veterinary College, London, the Royal Veterinary College, Edinburgh, and the Royal Veterinary College of Ireland; (*k*) donors of sums of £1000 and upwards, whether given in one sum or more. With power to add to their number.

2. The General Committee shall nominate two members of the Executive Committee, who shall hold office for three years and shall be eligible for re-election.

3. The General Committee shall meet at least once a year to receive reports from the Executive Committee on the general progress of the research, an account of expenditure, and the audited financial statement, and at such times as they may be summoned by the Executive Committee.

4. The President shall summon a special meeting of the General Committee on receiving a requisition so to do, signed by five members of the General Committee.

IV.—*The Executive Committee.*

1. The Executive Committee shall consist of:—

(*a*) The President (for the time being) and two Fellows of the Royal College of Physicians of London to be nominated by the Fellows of such College	3
(*b*) The President (for the time being) and two Members of the Council of the Royal College of Surgeons of England to be nominated by the Council of such College...	3
(*c*) Two Members of the Laboratories' Committee of the Royal Colleges of Physicians and Surgeons to be nominated by such Committee	2
(*d*) Two Members nominated by the General Committee ...	2
(*e*) One Member nominated by the Royal Society	1
(*f*) One Member nominated by the Royal Veterinary College, London	1
	12

The members of the Executive Committee shall hold office for three years and shall be eligible for re-election.

2. The Executive Committee shall have control of the income of the Fund, which shall be expended in furthering the objects stated in Section I., including the assignment of Funds: (*a*) for the erection or extension of laboratories or for the equipment of any existing laboratory in which investigations are or shall be pursued; (*b*) for grants to individual workers in laboratories or elsewhere; (*c*) for investigations other than those in laboratories; (*d*) for the collection of statistical, dietetic, topographical, and other information; (*e*) for the salaries of any officials who may be appointed.

3. The Executive Committee shall be charged with the general supervision and management of the arrangements to carry out the objects of the fund and particularly: (*a*) they shall appoint the working and consultative staff under such conditions as they may think desirable; (*b*) they may appoint a general superintendent of the investigations, who may be director of the central laboratory, and such assistants as may be considered necessary; (*c*) they shall draw up the regulations under which the work of the staff shall be conducted, in such rooms as may be placed at their disposal by the Royal Colleges or elsewhere; (*d*) they may seek the advice of the members of the working and consultative staff on any questions relating to the objects of the fund, and may appoint committees to conduct investigations, or to collect statistics and information, and may assign funds for the expenses of these investigations and for the remuneration of the members of these committees; (*e*) they may appoint a secretary or other official to conduct the correspondence, summon and attend the meetings, keep the accounts, write the minutes, &c.; (*f*) they may make arrangements for investigating methods of treatment in cases of cancer and malignant disease; (*g*) they may make arrangements to establish a system of correspondence with foreign and colonial laboratories and workers; (*h*) and generally they shall make such other arrangements as may seem to them best for the thorough investigation of this disease in all its aspects.

4. The Executive Committee shall be required to report their proceedings from time to time to the General Committee.

V.—*Working and Consultative Staff.*

1. The working staff may consist of:—(*a*) A general superintendent of the investigation who may be the director of the central laboratory; (*b*) assistants to the general superintendent and director; (*c*) any other persons who may be appointed to make special investigations.

2. The consultative staff shall consist of persons skilled in scientific investigations, representatives of various home and colonial Government departments, physicians and surgeons attached to hospitals, statistical experts, and others appointed by the Executive Committee.

3. The consultative staff may receive fees for attendances at meetings and may be remunerated for any services performed in connexion with the objects of the fund on such conditions as the Executive Committee may determine.

A letter was read from Surgeon-General A. F. Bradshaw, C.B., honorary secretary to the Oxford Eye Hospital, enclosing a copy of the decree and regulations of the University of Oxford establishing a readership in Ophthalmology and including the President of the Royal College of Surgeons of England as a member of the Electoral Board.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts received at the Mansion House in aid of the Fund additional to those announced in THE LANCET of June 21st and June 28th. The total now exceeds £43,000. There is now practically no chance of the Fund reaching the coveted £100,000, even with the generous offer of Mr. George Herring to add 5*s.* in the £ on all sums collected in churches. The final total, it is expected, will be about £60,000.

	£	*s.*	*d.*
Parish of St. Peter's, Eaton-square	9e6	0	0
St. Mary Abbots Parish, Kensington	724	0	0
St. Peter's, Vere-street	561	0	0
St. Peter's, Cranley-gardens	407	0	0
Holy Trinity, Sloane-street	370	0	0
West London Synagogue	285	0	0
St. George's, Hanover-square	281	0	0
St. Stephen's, Westbourne-park	252	0	0
Wimbledon Churches, per Canon Haygarth	233	0	0
St. Paul's Beckenham	189	0	0
St. Margaret's, Westminster	186	0	0
St. Martin's-in-the-Fields	185	0	0
St. Michael and All Angels', Paddington	175	0	0
St. Matthew's, Bayswater	172	0	0
St. Stephen's, Gloucester-road	172	0	0
St. Stephen's, South Dulwich	172	0	0
Blackheath Congregational Church	168	0	0
St. Alban's, Streatham Park	163	0	0
St. Paul's, Avenue-road	161	0	0
All Saints', North Peckham	157	0	0
St. Peter's, Brockley	156	0	0
Temple Church	152	0	0
Essex Unitarian Church, Kensington	145	0	0
St. John's, Paddington	144	0	0
Blackheath Congregational Church	142	0	0
St. Mary's, Kilburn	132	0	0
St. Peter's, Bayswater	116	0	0
Holy Trinity, Paddington	109	0	0
St. John's Wood Presbyterian Church	108	0	0
Christ Church, Streatham	107	0	0
Stamford-hill Congregational Church	107	0	0
Hampstead Parish Church	103	0	0
St. Michael's, Blackheath-park	101	0	0
St. James's, Paddington	100	0	0
Holy Trinity, Wandsworth	100	0	0
Regent-square Presbyterian Church	92	0	0
St. John the Evangelist's, Penge	88	0	0
St. Mark's, Reigate	88	0	0
St. Philip's, Kensington	83	0	0
Lyndhurst Church, Hampstead	82	0	0
St. Saviour's and Christ Church, Ealing	81	0	0
St. Matthew's, Denmark-hill	80	0	0
St. Andrew's, Wells-street	79	0	0
Hampstead Unitarian Church	79	0	0
St. Ann's, Soho	76	0	0
St. George's, Albemarle-street	75	0	0
St. John the Evangelist's, Blackheath	74	0	0
Holy Trinity, Upper Tooting	74	0	0
Denmark-hill German Lutheran	73	0	0
St. Paul's, Upper Norwood	72	0	0
Lewisham Parish Church	71	0	0
Camden Church, Camberwell	70	0	0
Highbury Quadrant Congregational Church	70	0	0
Kensington Presbyterian	70	0	0
St. Matthew's, Earl's-court	70	0	0
St. Margaret's, Lee	67	0	0
St. Paul's, Finchley	66	0	0
The Ascension Church, Balham-hill	66	0	0
Christ Church, Hornsey	65	0	0
Metropolitan Tabernacle	64	0	0
Park Chapel, Crouch-end	63	0	0
St. Augustine's, Honor Oak	61	0	0
St. James's, Muswell-hill	61	0	0
Hendon Parish Church and Christ Church	60	0	0
Marylebone Presbyterian Church	60	0	0
St. Peter's, Streatham	60	0	0
The Oratory, Kensington	56	0	0
St. Augustine's, Kilburn	55	0	0
Parish Church and Christ Church, Wanstead	54	0	0
Monken-Hadley	52	0	0
St. Olave's, Woodberry-down	52	0	0
St. Mary's, Cuddington	51	0	0
St. Matthew's, West Kensington	51	0	0
St. Matthew's, Upper Clapton, and Mission	50	0	0
Sir William J. Farrer	50	0	0
Willesden Presbyterian Church	50	0	0

THE RECONSTITUTION OF THE BRITISH MEDICAL ASSOCIATION.

THE members of the British Medical Association, at an extraordinary general meeting, held at the Exeter Hall, Strand, London, on July 9th, decided by 82 votes to 43 to adopt the proposed new regulations for the Association.

Sir VICTOR HORSLEY, in proposing a motion to confirm the adoption of the rules, pointed out that the merits and demerits of the new regulations had been discussed in the branches of the Association and in the committees formed for that purpose. There was also further consideration of the matter at Cheltenham. The present meeting was for the determination of the great general principles by which the Association was to be guided in the future. It was evident that the new rules would organise a machine of general political influence throughout the country. Four years ago he had endeavoured to point out that this was the real purpose of the Association. Good scientific work was done by the Association already and it only remained for it to take its place as the leading organisation for the whole of the medical profession. The corporate bodies, the colleges and the universities, had all their own objects to serve. But the British Medical Association was the only body that could take up the work. By passing the new regulations there would be imposed on the Association the privilege of doing this work and at the same time securing to it the prestige which the work must bring to it. Recent events in connexion with the Government of this country in relation to the General Medical Council had not been so favourable as to make it safe for them as a profession to go on without having a combination of the kind proposed by the new regulations which would represent the views of the medical profession in the United Kingdom and elsewhere. Sir Victor Horsley, continuing, said that he had been a member of the General Medical Council for some years and he found that the Council was supposed to be a *quasi* sub-department of the Privy Council. He was obliged to say "supposed to be" because during the last few months on several occasions the General Medical Council had been ignored by the Privy Council. As that was his experience of the inefficacy of the General Medical Council they would not be surprised when he said that he looked to the British Medical Association as the only body capable of bringing the General Medical Council into a more efficient condition. The Government was now beginning to realise that the Association was an important factor in the State. The medical profession was paramountly a scientific one, always advancing and progressing, and he contended that the new rules should receive the most sympathetic attention of all the members of the medical profession.

Mr. J. S. WHITAKER of Great Yarmouth, in seconding the motion, gave a history of the movement for the reform of the Association.

Dr. J. G. GLOVER, who was the next speaker, said that the meeting was engaged in discussing momentous issues. He asked what the argument was for the enormous change proposed. It was said that the reform was necessary because the profession was at the present moment weak and impotent and Parliament took no notice of its views. This Dr. Glover denied entirely. He thought the language was exaggerated and extremely inaccurate. Parliament in passing the Midwives Bill had accepted an entirely new principle in medical legislation as put forward by the medical profession represented by the British Medical Association and the General Medical Council. Where was there any impotence, he asked, in beating the Government, the Home Secretary in the House of Commons and the Lord Chancellor in the House of Lords? Dr. Glover then went on to show that the action of the General Medical Council in connexion with certain friendly societies disproved the charge of the Council being powerless. He considered that the new rules were fantastic, new-fangled, costly, and altogether degrading. In regard to the proposed delegates he said that their position would be a degrading one. The new rules would add immensely to the complications of the Association and would impose another set of masters upon the executive.

Dr. DOUGLAS also addressed the meeting, and he was followed by Dr. J. BRAISEY BRIERLEY, Mr. STAMFORD FELCE, Dr. O'SULLIVAN, and Mr. H. NELSON HARDY.

On a show of hands the voting was declared to be 82 in favour of the new regulations and 43 against.

ASYLUM REPORTS.

Salop and Montgomery County Asylum (Annual Report for 1901).—The average number of patients resident during the year was 800, comprising 361 males and 439 females. The admissions during the year amounted to 191—viz., 99 males and 92 females. Of these 146 were first admissions. Mr. Alan Rigden, the acting medical superintendent, states in his report that in addition to the patients resident in the asylum there were 25 male patients boarded out at Forden workhouse. Dr. Arthur Strange, the medical superintendent, died on May 11th, 1902, after a tenure of office of over 30 years, at the asylum, and his successor has not yet been appointed. The number of cases discharged as recovered during the year amounted to 79—viz., 36 males and 43 females, or 98·8 per cent. of the average number resident. The deaths during the year amounted to 82—viz., 41 males and 41 females, or 10·25 per cent., as calculated on the same basis. Of the deaths three were due to renal disease, four each to epilepsy and colitis, five to general paralysis of the insane, six to cardiac disease, seven to apoplexy, 14 to pulmonary phthisis, 16 to senile decay and the rest to other causes. Until the early part of the year the health of the asylum was reasonably good, but in February, 1902, an outbreak of influenza occurred, beginning in the female department and subsequently attacking the men. "Up to May 17th, 1902, 31 patients have died of this disease out of a total of 78 attacked, making a death-rate of 39·74 per cent." An outbreak of swine fever occurred on the farm, necessitating the slaughter of nearly all the pigs and leading to a considerable reduction of the profit on the farm account. The average weekly cost of maintenance has been 8*s.* 11*d.* per patient. The committee of visitors states in its report that owing to the increase in the cost of maintenance it has been found necessary to raise the weekly charge to the unions from 8*s.* 6*d.* to 9*s.* 6*d.* per patient as from July 1st, 1902. The sum of £1033 13*s.* 6*d.* has been expended during the year in additions, alterations, and improvements, including £757 8*s.* 3*d.* for the construction of the sewer connecting the asylum with the borough of Shrewsbury system. The committee has at present under consideration the question of electric lighting for the asylum. The report of the Commissioners in Lunacy is not included in the present annual report.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9260 births and 4384 deaths were registered during the week ending July 5th. The annual rate of mortality in these towns, which had been 15·0, 14·9, and 15·1 per 1000 in the three preceding weeks, further increased last week to 15·4 per 1000. In London the death-rate was 15·1 per 1000, while it averaged 15·5 in the 75 other large towns. The lowest death-rates in these towns were 7·6 in Hornsey, 7·8 in Reading, 8·0 in Derby, 8·6 in Willesden, 9·2 in Smethwick and in Leicester, and 9·3 in Swansea; the highest rates were 19·7 in Sunderland, 20·0 in Tynemouth, 20·3 in Liverpool, 20·8 in Gateshead, 22·5 in Hanley, 22·9 in Wigan, 25·5 in St. Helens, and 25·7 in Middlesbrough. The 4384 deaths in these towns last week included 522 which were referred to the principal infectious diseases, against 496, 481, and 476 in the three preceding weeks; of these 522 deaths 125 resulted from whooping-cough, 117 from measles, 83 from diarrhœa, 64 from scarlet fever, 64 from diphtheria, 53 from "fever" (principally enteric), and 16 from small-pox. No death from any of these diseases was registered last week in Hastings, Northampton, Great Yarmouth, Smethwick, Bootle, or Rotherham; while they caused the highest death-rates in Leyton, Hanley, West Bromwich, St. Helens, Barrow-in-Furness, South Shields, Gateshead, and Rhondda. The greatest proportional mortality from measles occurred in Plymouth, Devonport, Burton-on-Trent, West Bromwich, Bury, Barrow-in-Furness, Gateshead, and Rhondda; from scarlet fever in West Bromwich, Birmingham, and St. Helens; from diphtheria in Hanley, Oldham, Cardiff, and Rhondda; from whooping-cough in Aston Manor, Wigan, Salford, Tynemouth, and South Shields; from "fever" in Leyton and

Birkenhead; and from diarrhœa in Warrington, Stockton-on-Tees, and West Hartlepool. Of the deaths from small-pox registered last week 13 were of persons belonged to London, one to Tottenham, one to Walthamstow, and one to Swansea. The Metropolitan Asylums hospitals contained 677 small-pox patients at the end of last week, against numbers decreasing from 1515 to 837 at the end of the 10 preceding weeks; 58 new cases were admitted during the week, against 157, 107, and 129 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had increased from 2207 to 2496 on the seven preceding Saturdays, had declined again to 2432 on Saturday last, July 5th; 256 new cases were admitted during the week, against 282, 378, and 276 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 166, 173, and 194 in the three preceding weeks, declined again to 168 last week, and were four below the corrected average. The causes of 54, or 1·3 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Newcastle, and in 45 other smaller towns; the largest proportions of uncertified deaths were registered in Northampton, Leicester, Liverpool, Rochdale, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16·4 and 19·2 per 1000 in the two preceding weeks, declined again to 16·3 per 1000 during the week ending July 5th, but showed an excess of 0·9 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 7·8 in Perth and 10·9 in Aberdeen to 17·9 in Paisley and 18·0 in Dundee. The 528 deaths in these towns included 24 from diarrhœa, 16 from whooping-cough, 13 from measles, five from scarlet fever, five from diphtheria, and three from "fever." In all 66 deaths resulted from these principal infectious diseases last week, against 54 and 57 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·0 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 18, 17, and 16 in the three preceding weeks, rose again last week to 24, of which 13 occurred in Glasgow, four in Dundee, two in Edinburgh, two in Aberdeen, and two in Leith. The deaths from whooping-cough, which had been 13 and 14 in the two preceding weeks, further increased to 16 last week, and included 10 in Glasgow, two in Edinburgh, and two in Dundee. The fatal cases of measles, which had declined from 22 to 15 in the four preceding weeks, further decreased last week to 13, of which six were registered in Edinburgh, three in Glasgow, and three in Paisley. The deaths from scarlet fever, which had been four in each of the two preceding weeks, increased to five last week, and included four in Glasgow. The fatal cases of diphtheria, which had been two and four in the two preceding weeks, further rose last week to five, of which two were registered in Glasgow and two in Edinburgh. The three deaths from "fever" showed a slight decline from the number in the preceding week, and included two in Paisley.. The deaths referred to diseases of the respiratory organs in these towns, which had been 96 and 101 in the two preceding weeks, declined again to 87 last week and were eight below the number in the corresponding period of last year. The causes of 24, or nearly 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·9 and 19·9 per 1000 in the two preceding weeks, declined again to 18·9 per 1000 during the week ending July 5th. During the past four weeks the death-rate has averaged 19·1 per 1000, the rates during the same period being 14·5 in London and 17·4 in Edinburgh. The 139 deaths of persons belonging to Dublin registered during the week under notice were six below the number in the preceding week, and included 11 which were referred to the principal infectious diseases, against 10, eight, and nine in the three preceding weeks; of these, six resulted from measles, two from "fever," two from diarrhœa, one from scarlet fever, and not one from either small-pox, diphtheria, or whooping-cough. These 11 deaths were equal to an annual rate of 1·5 per 1000, the death-rates from these principal infectious diseases during the same period being 1·8 in London and 2·1 in Edinburgh. The fatal cases of measles, which had been four, five, and three in the three preceding weeks, increased again last week to six; while the two deaths from "fever" showed a decline of two from the number in the preceding week. The 139 deaths in Dublin last week included 20 of children under one year of age and 35 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons slightly exceeded the number in the preceding week. Eight inquest cases and seven deaths from violence were registered; and 53, or considerably more than a third, of the deaths occurred in public institutions. The causes of 10, or more than 7 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JUNE, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 10·0 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year. In the three preceding months the rates had been 11·9, 10·5, and 10·3 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, Hammersmith, Hampstead, Battersea, and Woolwich, while they showed the largest excess in St. Pancras, City of London, Bethnal Green, Stepney, Poplar, and Southwark. The prevalence of small-pox, which had been declining in the two preceding months, showed a further diminution last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Holborn, Shoreditch, Bethnal Green Stepney, Poplar, and Southwark. The Metropolitan Asylums hospitals contained 837 small-pox patients at the end of June, against 1526, 1442, and 1274 at the end of the three preceding months; the weekly admissions averaged 145, against 461, 319, and 260 in the three preceding months. The prevalence of scarlet fever during the month under notice showed a slight excess over that recorded in the preceding month; the greatest proportional prevalence of this disease occurred in St. Pancras, Stoke Newington, Bethnal Green, Southwark, Camberwell, and Lewisham. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2113, 2176, and 2222 at the end of the three preceding months, had further risen to 2439 at the end of last month; the weekly admissions averaged 251, against 258, 258, and 274 in the three preceding months. The prevalence of diphtheria during June showed no variation from that recorded during the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Fulham, Stepney, Poplar, Southwark, Bermondsey, Camberwell,and Lewisham. There were 975 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1123, 1035, and 960 at the end of the three preceding months; the weekly admissions averaged 152, against 156, 140, and 146 in the three preceding months. The prevalence of enteric fever last month showed a considerable excess over that recorded in the preceding month; the greatest proportional prevalence of this disease occurred in Chelsea, St. Marylebone, Stoke Newington, Finsbury, Bethnal Green, Poplar, and Greenwich. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 121, 115, and 127 at the end of the three preceding months, had further increased to 195 at the end of June; the weekly admissions averaged 38, against 17, 17, and 19 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Holborn, Finsbury, Shoreditch, Southwark, and Deptford. The 15 cases of puerperal fever notified during the month included three in Kensington and two each in Islington, Bethnal Green, Wandsworth, and Lewisham.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JUNE, 1902.

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1902	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,579,187	600	1447	600	—	279	4	15	379	—	3324	10·0	99	198	43	53	151	—	29	—	57	630	1·8	4998	13·9	112
West Districts.																										
Paddington	145,107	6	27	9	—	6	—	—	10	-	58	5·2	3	2	3	1	1	—	1	—	1	12	1·1	134	12·0	134
Kensington	177,605	15	28	16	-	9		3	13	—	84	6·2	1	10		—	3	—	2	—	4	20	1·5	185	13·6	122
Hammersmith	114,210	8	19	17	-	6	—	—	5	—	55	6·3	—	10	—	1	1	—	1	—	3	16	1·8	96	11·0	130
Fulham	143,102	8	39	27		6	—	—	9	—	89	8·1	1	5	2	2	3	-	—	—	3	16	1·5	132	12·0	103
Chelsea	74,018	2	19	10	—	6	—	-	7	-	44	7·7	2	19	1	1	—	—	-	—	3	26	4·6	101	17·8	140
City of Westminster	180,800	18	54	20	-	8	—	—	14	—	114	8·2	1	2	3	2	1	—	1	—	1	11	0·8	167	12·0	71
North Districts.																										
St. Marylebone	132,089	9	40	11		13	-	—	22		95	9·4	2	2	2	3	1	-	—	—	2	12	1·2	160	15·8	83
Hampstead	63,743	2	23	7		3	—	—	2	—	37	5·8	—	—	—	—	—	—	—	—	—	—	—	43	6·7	44
St. Pancras	236,596	32	105	71		17	—	1	10	—	236	13·1	11	4	3	6	15	-	2	—	3	44	2·4	270	14·9	117
Islington	337,268	30	88	72	—	17	2	2	21	—	232	9·0	6	5	1	2	11	—	2	—	3	30	1·2	321	12·4	96
Stoke Newington	51,700	3	21	4	—	4	—	—	4		36	9·1	2	1	1	—	—	-	—	—	—	4	1·0	47	11·9	96
Hackney	221,926	49	58	38		9	—	1	15	-	170	10·0	6	17	—	2	8	—	1	—	1	35	2·1	216	12·7	102
Central Districts.																										
Holborn	58,535	9	12	8	—	2	-	—	8	—	39	8·7	2	3	—	2	1	—	1	—	—	9	2·0	76	16·9	85
Finsbury	100,487	3	39	16		9	1	-	17	-	85	11·0	—	7	3	2	7	—	—	—	1	20	2·6	149	19·3	147
City of London	25,598	1	8	27	-	1	—	—	2	—	39	19·9	—	1	—	2	1	-	—	—	—	4	2·0	24	12·2	333
East Districts.																										
Shoreditch	117,980	19	16	26		8		-	19	—	88	9·7	1	6	—	2	7	-	2	—	1	19	2·1	123	13·6	98
Bethnal Green	129,889	51	52	14		10		2	16	—	145	14·6	5	4	1	—	9	—	—	—	3	22	2·2	172	17·3	143
Stepney	300,551	84	91	65	—	18	—	—	27	-	285	12·4	12	18	4	6	13	—	—	—	4	57	2·5	391	17·0	113
Poplar	169,214	47	45	34	-	24		—	18	-	168	12·9	8	2	—	4	4	—	1	—	3	22	1·7	188	14·5	105
South Districts.																										
Southwark	206,825	56	100	52	-	13	—	—	29	-	250	15·8	8	17	3	2	11	-	2	—	3	46	2·9	316	19·9	166
Bermondsey	130,218	15	47	35		7	—	—	10	-	114	11·4	6	17	1	2	6	—	—	—	2	34	3·4	171	17·1	111
Lambeth	305,102	39	98	35	—	19	1	—	26	—	218	9·3	5	3	8	4	6	-	2	—	5	33	1·4	351	14·1	84
Battersea	171,401	7	43	21		8		1	11	-	91	6·9	1	13	—	—	6	-	3	—	2	25	1·9	168	12·8	101
Wandsworth	241,810	9	90	38	-	11	—	2	10	-	160	8·6	—	21	1	—	8	—	1	—	4	35	1·9	230	12·4	138
Camberwell	262,775	34	112	52	—	18	—	1	14	-	231	11·5	12	8	2	1	13	-	3	—	3	42	2·1	286	14·2	129
Deptford	111,577	19	37	15	—	8	—	—	16	—	95	11·1	3	—	2	—	3	—	1	—	2	11	1·3	114	13·3	126
Greenwich	98,013	7	52	10	—	8	-	—	11		88	11·7	—	—	—	1	1		1	—	—	3	0·4	77	10·2	81
Lewisham	132,432	5	61	34	—	5	—	2	7	-	114	11·2	—	—	2	3	5	—	1	—	—	11	1·1	103	10·1	81
Woolwich	119,556	12	23	16	—	4	—	—	6	—	61	6·7	1	1	—	2	6	—	1	—	—	11	1·2	107	11·7	117
Port of London	—	1	—	—	—	2	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending June 28th the deaths of 4898 persons belonging to London were registered, equal to an annual rate of 13·9 per 1000, against 20·4, 16·8, and 15·9 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 6·7 in Hampstead, 10·1 in Lewisham, 10·2 in Greenwich, 11·0 in Hammersmith, 11·7 in Woolwich, and 11·9 in Stoke Newington; while the highest rates were 17·0 in Stepney, 17·1 in Holborn and in Bermondsey, 17·3 in Bethnal Green, 19 3 in Finsbury, and 19·9 in Southwark. The 4898 deaths from all causes included 99 from small-pox, 198 from measles, 43 from scarlet fever, 53 from diphtheria, 151 from whooping-cough, 29 from enteric fever, and 57 from diarrhœa; in all, 630 deaths resulted from these principal infectious diseases. No death from any of these diseases was recorded last month in Hampstead; in the other metropolitan boroughs they caused the lowest death-rates in Paddington, Westminster, Stoke Newington, Greenwich, and Lewisham, and the highest rates in Chelsea, St. Pancras, Finsbury, Stepney, Southwark, and Bermondsey. The 99 fatal cases of small-pox were 55 below the number in the preceding month; the greatest proportional mortality from this disease occurred in St. Pancras, Stoke Newington, Poplar, Southwark, Bermondsey, and Camberwell. The 198 deaths from measles were 87 below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Chelsea, Hackney, Finsbury, Southwark, Battersea, and Wandsworth. The 43 deaths from scarlet fever showed a decline of 24 from the average number in the corresponding periods of the 10 preceding years; the greatest proportional mortality from this disease was recorded in Paddington, Westminster, Finsbury, Lambeth, and Deptford. The 53 fatal cases of diphtheria were 91 below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in St. Marylebone, St Pancras, Holborn, the City of London, Poplar, and Lewisham. The 151 deaths from whooping-cough were within one of the average number in the corresponding periods of the 10 preceding years; the greatest proportional mortality from this disease occurred in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Southwark, and Camberwell. The 29 deaths from enteric fever were slightly below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, Shoreditch, Southwark, Battersea, and Camberwell. The 57 fatal cases of diarrhœa were more than 100 below the decennial average for June; the highest death-rates from this disease were recorded in Kensington, Hammersmith, Fulham, Chelsea, and Bethnal Green. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 25 per cent. below the average.

Infant mortality in London during June, measured by the proportion of deaths of children under one year of age to registered births, was equal to 112 per 1000. The lowest rates of infant mortality were recorded in Westminster, Hampstead, St. Marylebone, Lambeth, Greenwich, and Lewisham; and the highest rates in Paddington, Chelsea, Finsbury, City of London, Bethnal Green, Southwark, and Wandsworth.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. Battersby is appointed to the medical charge of the Station Hospital, Quetta. Lieutenant L. J. S. Cahill has been transferred from the Bombay District to the Poona District. Surgeon-Major C. L. Fraser, A.M.R., assumes temporary medical charge of troops, Station Hospital, &c., Berwick-on-Tweed, vice Lieutenant-Colonel J. Stevenson, A.M.S., retired pay, who assumes medical charge of troops, Station Hospital, &c., Aberdeen, vice Surgeon-Lieutenant-Colonel W. S. Cheyne, A.M.R.

THE ARMY AND TYPHOID FEVER.

Notwithstanding that the war in South Africa is now over we trust that the question as to whether something cannot be done in the direction of lessening or abolishing the deplorable prevalence of enteric fever in armies in the field will not be lost sight of and that the consideration of such an important and pressing matter will not be relegated to some future time, but that it will be undertaken at once. No time can be more opportune than the present while the facts connected with the late campaign are still fresh in everybody's mind and now that the advent of peace has removed or lessened the stress and strain more or less inseparable from war. If we turn to the medical history of military campaigns we are confronted with the presence of typhoid fever as one of the gravest contributory causes of mortality, sickness, and inefficiency among the belligerents. We need scarcely say that this was so in respect of the British forces in South Africa, for enteric fever was almost throughout the whole course of the late war the most prominent feature in the casualty returns. Nor is it only at such times that enteric fever has proved to be a scourge to the army, for this disease constitutes a terrible annual drain on the life and health of our young soldiers in India. We are above all things, then, anxious to see this matter taken up in an earnest and practical spirit with a view to ascertain whether anything can be done. Dr. H. E. Leigh Canney has, as our readers are well aware, put forward a scheme by which he claims, among other things, that the amount of this and other "water-borne" army diseases might be greatly lessened, the medical work of the army much reduced, and a great saving in the way of money and transport effected. The basis of his scheme is to safeguard the army against infection through the most common (though not the exclusive) source of it among troops serving in the field by providing them with a "safe" water-supply and by pointing out at the same time a method by which this might practically be accomplished. About a year has elapsed since Dr. Leigh Canney first definitely put forward his proposals in this respect and we recommended that instead of being merely theoretically discussed they should be practically tried. It may be mentioned that, with a similar object in view, in the United States army a water-sterilising apparatus, known as the Waterhouse-Forbes apparatus, is used. Dr. Leigh Canney has, it is well known, continued to pursue his labours in the meantime and to press the subject upon public attention. He is naturally surprised at the delay which has occurred, and still more dissatisfied with the way in which it is now apparently proposed to give effect to a practical trial of his scheme. He has consequently felt compelled to call attention to the conditions under which this should be undertaken, and in a long and forcible letter, written in an enthusiastic spirit, which appeared in the *Times* of June 28th, he has fully set forth the past history and present state of the question. In this communication, which should be read *in extenso*, he, it will be seen, lays down eight essential details as the conditions which he considers are required to be fulfilled to secure the success of his scheme. It is not that he would have merely a trained "water section" provided as a permanent institution in the army and furnished with the necessary material and properly qualified agents for doing the work, but he would also make the *non-medical officers* of the army responsible for executive sanitary work and for the incidence of water-borne diseases in their several and respective units. We have so frequently adverted in the past to the subjects of army sanitation in the field and to the possible organisation of an executive sanitary corps acting under the authority and direction of expert sanitary officers that there is no need to enter upon them now. While we do not by any means seek to close our eyes to the difficulties in the way of preventing the occurrence and spread of typhoid fever under the conditions of war we are nevertheless of opinion that this question of the provision of a "safe" water-supply for the troops engaged, and, indeed, the whole subject of field army hygiene, require to be considered thoroughly and to be threshed out by the Army Medical Advisory Board or by some committee specially appointed for the purpose.

HEALTH OF THE ARMY.

The Army Medical Department Report for 1900, which has just been issued as a blue-book, states that the average strength of European troops serving at home and abroad (exclusive of South Africa) in 1900 was 326,276 officers, non-commissioned officers, and men. The total number of admissions to hospital was 187,284, and the total deaths were 2242. The admissions represent a ratio of 827·7 per 1000 of strength; the deaths one of 9·05 per

1000 on a strength of 247,819. Amongst the troops serving in the United Kingdom the admission and constantly-sick rates were lower and the mortality rate was higher than in 1899. At Gibraltar the admission and constantly-sick rates were lower but the death-rate was somewhat higher than in 1899. At Malta, including Crete, the admission rate was higher and the death and constantly-sick rates were lower than in the previous year. In Canada there was an increase in the admission, mortality, and constantly-sick rates. At Bermuda enteric fever again showed a decline At Barbados and at Jamaica the health of the troops was very good. In Western Africa malarial fevers furnished the chief cause of admissions to hospital. In Mauritius the general health of the troops was much better than usual, and in Ceylon there was a marked decrease in the admissions for malarial fevers. In the Straits Settlements the health of the troops has been exceptionally good. In China the ratios of admission and constantly-sick were lower than in 1899. In India there was a decline in the admission and constantly-sick rates, but an increase in the death and invaliding rates. In Egypt the general health of the troops was good and bore a satisfactory comparison with the previous year.

An Army order has been issued which states that all present members of the Nursing Service and members of the Army Nursing Reserve who have been in military employment during the war in South Africa shall be eligible for appointment in Queen Alexandra's Imperial Military Nursing Service if recommended by the Nursing Board.

THE KING'S DINNER TO THE POOR.

Some 40 volunteer medical officers and 26 squads of fully-equipped stretcher squads were distributed among the places at which the guests invited to the King's dinner to the poor were assembled on July 5th. The services of medical practitioners, men of the St. John Amoulance Brigade, and hospital nurses were also requisitioned. In the evening a number of volunteer medical officers dined together after doing duty at the King's dinner at the Cecil Hotel, "to drink the King's health," which was heartily done, and a telegram of congratulation on the progress of His Majesty's illness was sent to Buckingham Palace. The following reply was received: "Buckingham Palace.—To Surgeon-Major Marshall, Chairman of Volunteer Medical Officers' Dinner, Hotel Cecil, Strand,—Your telegram conveying the kind congratulations on the King's progress towards recovery of the volunteer medical officers dining together under your presidency at the Hotel Cecil last night shall be submitted to His Majesty at an early opportunity.—DIGHTON PROBYN." Surgeon-Major John J. de Z. Marshall, honorary secretary of the Volunteer Medical Association, wishes us to state that he will be glad to do his best to obtain Coronation mugs and the King's "Hearty Invitation Cards" for medical officers and men who were unable to obtain them at the dinner by applying through the Lord Mayor on receiving lists authenticated by medical officers of health.

CHIROPODISTS FOR THE ARMY.

The War Office of this country is following the example adopted in the armies of other countries in view of securing and developing the marching capacity of the soldier. During the big American war chiropodists to the army were appointed by the United States Government and in the German army the greatest attention is paid to the soldier's feet. An Army Order has just been issued by the War Office providing that a soldier not above the rank of sergeant may be employed as a chiropodist in each infantry battalion provided he has undergone a short course of instruction and has obtained a certificate of proficiency in chiropody. Battalion chiropodists are to receive sixpence a day in addition to their daily pay. While we regard this as a good practical measure and as conferring a boon upon the soldier care will obviously have to be taken that only those who have been properly instructed are allowed to exercise their skill in this respect.

MEDICAL EXAMINATION OF CANDIDATES FOR THE ARMY.

The medical attendants of parents who contemplate educating their sons for the army frequently seek information from us as to the effect which some minor ailments of youth may have upon candidates when being examined by the Army Medical Board previously to receiving a commission. With regard to the removal of tonsils we understand that, other things being equal, the operation would not affect the candidate prejudicially. He must be up to a certain standard of height and chest girth and be free from organic disease. His vision without glasses must be up to a fixed standard and if there is an error of refraction it must be capable of correction to another fixed standard. It should be generally known that parents have now the right to have boys examined by a medical board before allowing them to join army classes.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on July 8th, Sir J. N. Dick, K.C.B., being in the chair, the sum of £40 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

PERITYPHLITIS.

To the Editors of THE LANCET.

SIRS,—Many will have read with much interest the letter in THE LANCET[1] of my revered teacher, Sir Samuel Wilks, asking, "When will surgeons cease to proclaim to the world their ignorance of the existence of the above-named disease until operative means were first used for its cure?" and also the letter of my friend Dr. P. H. Pye-Smith in the *British Medical Journal* of July 5th with its quiet cynicism at the supposed benighted ignorance of surgeons. But I rather imagine that neither of these distinguished physicians sincerely believes in the imputed unenlightenment which has aroused the indignation of the one and the scarcely veiled ridicule of the other. Their love for their old school and the cherished memories of their early training and teaching have doubtless led them to repudiate even the semblance of a claim for "modernness" for a disease which has received practical recognition for the greater part of a century.

My own first recollection of disease due to the appendix goes back to a time long prior to my clerkship to Dr. Barlow and Dr. Rees and my dressership to Cooper Forster, and Hilton—to the year 1854 or 1855, in fact, when as a schoolboy I heard of the sudden death of a young lady, the only daughter of patients and friends of my father and an occasional playmate of my sisters. We were told that her illness was inflammation of the membrane covering of the bowel. She died from an alarmingly acute attack which extended over one or two days only. My father made the post-mortem examination and found that a body "like a cherry-stone" had ulcerated through the appendix and had caused the fatal trouble. This case created great dismay in our young minds and used often to be spoken of by all of us at home—not, to be sure, as one of "appendicitis" or "perityphlitis," but in remembrance of our lost comrade and because of the terrible dangers supposed to arise from the proverbial "cherry-stone." Later, after I had studied in the wards of Guy's Hospital, the same case was several times referred to in conversations with my father, a country practitioner, as a type of a group of cases of acute peritonitis. I also recall the fact that one of the earliest cases of "iliac phlegmon" under my charge—an enormous abscess containing horribly foul pus—was seen with me by the late Mr. Hulke about the year 1871, and was considered to be connected with the cæcum and its appendix. Many of my contemporaries must have had as early, or possibly earlier, similar experience.

The author of the address criticised by Sir Samuel Wilks and Dr. P. H. Pye-Smith, both in the headline ("The Appearing of Appendicitis") of his opening section as well as in the first three paragraphs of this section, does certainly seem to imply that appendicitis is a "modern disease" and speaks of its "almost abrupt appearance" as one of the most remarkable circumstances "in the history of medicine in the closing years of the nineteenth century." But in subsequent paragraphs Sir Frederick Treves acknowledges that "this clumsily named malady is not a new disease"; and he adds: "nor is there evidence to support the suggestion that it has undergone any recent and remarkable recrudescence or that it has become more frequent in its appearance." He alludes,

[1] THE LANCET, July 5th, 1902, p. 44.

it is true, to the "long-ignored appendix," and to appendicitis as having "no coherent existence 20 years ago"; still he tells us that the disease "can be traced back to distant centuries" and he thinks that the cave man occasionally succumbed to its ill-effects. Further, he admits the existence of many published isolated cases and refers to the monograph of Burne (1837) and the articles by Mélier (1827) on the "appendix as a cause of certain inflammatory troubles in the right iliac region." Thus, whilst seeming to declare the disease as one of modern date, Sir F. Treves acknowledges quite as fully as his critics that it is as old as the hills and was long ago described by many writers.

Another point raised in this interesting address appears to be claimed as a discovery within the same short and recent period. Sir F. Treves writes: "The rapidity with which the peritoneum can isolate inflammatory effusion and render pus encysted was not understood and consequently localised iliac abscesses were supposed to occupy the connective tissue of the iliac fossa." But the critic might fairly ask (besides other questions), What about encysted traumatic dropsy of the abdomen? Let the reader refer, if he will, to a work published in 1873 (Agnew's Surgery, vol. i., p. 392). Agnew there states, "The circumscribing walls of these cysts are the result of a chronic peritonitis." After pointing out that these cysts may be formed in various ways between the omentum and the intestinal peritoneum, Agnew goes on to say that they "may be converted into purulent sacs," and gives as illustrations a case in which two gallons of purulent fluid were drawn from such a cyst between the omentum and the intestines, and another in which he drew off over three gallons from a cyst on the right side of a woman's abdomen. After describing the symptoms and treatment of encysted dropsy of the peritoneum Agnew ends by saying, "When the cysts suppurate it will be best to open them, evacuate the contents, and treat by drainage tubes and carbolic water." Here there is a full recognition of the limiting of fluids by adhesive peritonitis; and a treatment is recommended which very closely resembles that employed in 1902 for an abscess connected with the appendix.

I may be permitted, perhaps, to remark that all surgeons will probably not agree with the statement that the clinical phenomena which are familiar under the name of "an attack of appendicitis" are due to peritonitis in the region of that organ; that some will consider Sir F. Treves is unnecessarily hostile in his remarks against "the classification of appendicitis," but they will welcome his distinct recognition of "ultra acute" and other clinical varieties of the disease, though he does not designate them by names such as "fulminating," "suppurative," and "relapsing." Moreover, it is known that all surgeons do not endorse his opinions as to the advisability of non-interference during an acute attack.

Surgeons of experience who only remove the appendix during the quiescent period may look to a mortality of only a fraction per cent., whilst those who do not limit their operations to this period may not surpass, even if they equal, Dr. Mynter's results of 81 recoveries and 34 deaths in 115 cases operated upon by him *at some period during an acute attack*. We want figures to tell us how many patients die during an acute attack unoperated upon, and how many die or recover only after a protracted illness when operated upon after the disease has passed into an advanced stage of suppuration. It would be good to learn, also, how many patients who otherwise would have died have their lives saved or are spared long periods of convalescence from suppuration by the practice of operating in acute attacks as soon as the diagnosis is made. There must be many surgeons who with melancholy feelings have had occasion to ask themselves, "Had this patient been operated upon two days, or even one day earlier, might not his life have been saved?" and who in other cases with happier thoughts have reflected, "Had the operation been postponed another 24, or even 12, hours this patient must have died."

It is to be hoped that the concluding paragraph of Dr. P. H. Pye-Smith's letter, and the passages in Sir Frederick Treves's address to which it makes reference, will not be too freely "read into" clinical practice, and thus act to deter from operating in cases in which an operation alone will enable the sufferers to enjoy long life and lead laborious days. But, Sirs, I will not pursue this theme, for my object in writing at all on the subject is merely to suggest with as much modesty and diffidence as I possess that surgeons are probably not quite so ignorant as these greatly-respected and highly-esteemed physicians would lead your readers to suppose. I am, Sirs, yours faithfully,

Cavendish-square, W., July 7th, 1902. HENRY MORRIS.

To the Editors of THE LANCET.

SIRS,—Personal experience of a disease impresses its features strongly on the mind. My own experience of perityphlitis may be of interest, especially in connexion with the observations of Sir Samuel Wilks. Between 26 and 34 I had five or six definite attacks, the last of great severity. In none was there any spot of greater tenderness to suggest that the affection started from the appendix. My personal observation generated a strong conviction of the origin of the form from which I suffered. In his teaching Sir William Jenner used to insist on the variation in the amount of peritoneum over the cæcum in connexion with intussusception, which he held to occur chiefly when the covering is so complete as to give rise to a meso-cæcum and consequent mobility. It seemed to me that true perityphlitis occurs especially when the cæcum is imperfectly surrounded by peritoneum, so that part of the intestinal coat is in direct relation to the extra-peritoneal connective tissue, and that, in this, cellulitis is excited by the spread of inflammation from the mucous membrane of the bowel. Certainly every attack I had was distinctly set up by intestinal catarrh. Besides the definite attacks with some induration, the cæcum seemed to become prone to be slightly inflamed, for I had many slight attacks in which the cæcum became distended and very tender; the state passed with a day's rest, hot fomentations, and the avoidance of any action of the bowels.

The last attack was very instructive. Beginning in the usual way, the cellulitis which, I assume, was excited from the mucous membrane, spread, clearly in the extra-peritoneal tissue, and the induration that resulted extended as far as the middle line of the abdomen. I suppose that there was no indication of suppuration, for Sir William Jenner, who kindly looked after me, did not think a surgeon's opinion necessary. In the course of a few weeks the whole gradually disappeared, in spite of an incidental attack of catarrhal jaundice. It was before the days of "appendicitis." I wonder whether, with such extensive induration, I should have escaped operation and the removal of the appendix at the present day. I do not think my prospects of recovery would have been increased thereby. I should add that no one recognised more clearly than Sir William Jenner the fact that dangerous local inflammation is often excited by the impaction of substances in the appendix.

I have met with several illustrations of one other fact which my experience illustrated—that a very severe attack of perityphlitis, whether operated on or not, is usually the last. I think the explanation is that the connective tissue is left in an altered, cicatricial condition which becomes less and less prone to inflammation as the cicatricial change is more and more complete. I am, Sirs, yours faithfully,

July 7th, 1902. W. R. GOWERS.

To the Editors of THE LANCET.

SIRS,—It may possibly interest some of your readers at this moment to know that in 1884, Sept. 20th, I published in the now extinct *Medical Times and Gazette* a fatal case of well-marked perityphlitis (as it was then called) as part of a series of summer clinical lectures on peritonitis in its various forms which occupied the two last years of the journal in question. This was just two years before the appearance of the admirable research of Dr. Fitz to which Sir Frederick Treves attributes not only the name appendicitis, but all the more modern aspects of the disease resulting from that name. It may, therefore, be worth while to remark that although my lecture (being strictly clinical and not systematic) made no attempt at a large display of authorities, it may fairly be taken as representative of the knowledge by physicians of the diseases included under the names typhlitis and perityphlitis at that date, when surgery had not as yet (except in very peculiar circumstances) put in a special claim to the management of such diseases. The first point that appears to require notice in view of more recent researches is that the case in 1884 was absolutely the first case that I could find in my own records of a fatal result in perityphlitis during the 10 years in which the Western Infirmary had been open. A careful inspection of the records of the

pathological department discovered two more such cases, as well as two others which had been sent in from without for examination. On the whole, and speaking with such diffidence as is necessary to allow for lapses of memory, I am inclined to think that this was the very first fatal case that had occurred to myself personally either in hospital or consulting practice; and this would accord very well with the conclusion of Sir Frederick Treves, who places the mortality of the disease without operation as no higher than 5 per cent. I am willing to admit, however, that the whole circumstances of this fatal case as viewed in the light of later experience incline me to the opinion that an operation ought to have been performed, although owing to the subsidence of the temperature and all the acute symptoms we were led into a practice of expectancy. Four years later I had the pleasure, along with the late Sir George MacLeod, of saving by operation from imminent peril a professional brother whose case in every detail seems to correspond exactly with that of our King and who is now performing the duties of a large practice without any trace of a subsequent recurrence of symptoms. But in view of the letter by Sir Samuel Wilks which appeared in your columns last week it seems important that I should call attention in your columns to the fact that not only was the share of the appendix in the morbid process not ignored, but it was most carefully treated as the result of experience in the Western Infirmary as well as of previous research elsewhere, the whole subject being discussed with reference to a paper by the late Dr. Hilton Fagge in Guy's Hospital Reports for 1875. I am sorry my attention was not drawn to Dr. Addison's much earlier statements which are only one more proof of the genius and penetrating sagacity of that great physician, but I think that the perusal of this lecture in detail and in its whole surroundings will satisfy anyone that in 1884 at least the share of appendix disease in perityphlitis was by no means overlooked, and that the reparative processes incidental to a limited peritonitis in such circumstances were most carefully insisted on.

I am, Sirs, yours faithfully,

Edinburgh, July 7th, 1902. W. T. GAIRDNER.

THE BETTERMENT OF LONDON.

To the Editors of THE LANCET.

SIRS,—I ask permission to place before the public, through the medium of your influential journal, some particulars regarding the recently established Betterment of London Association, of which I have accepted the presidency for the current year. The press has always been foremost in the advocacy of any movement which has the public welfare at heart and I therefore feel confident of its support in the present instance. The principal items of our programme are as follows.

Section I.—To agitate for a *quieter* London, primarily in respect to unnecessary and objectionable street noises such as those produced by organ-grinders, costermongers, and newsboys; for a *healthier* and *cleaner* London, obtainable by a constant removal of refuse of all descriptions and in other ways; and for a more clearly designated London. In this latter respect the association will direct attention, amongst other matters, to the illegible naming of public thoroughfares and to the insufficient manner in which names are illuminated after dusk.

Section II.—To agitate against the immigration of pauper aliens (obtaining legislation thereon if necessary); against the employment—in the street—of children under 10 years of age, and after 9 o'clock P.M. of children under 12 years of age. To draw attention to the extreme danger to health engendered by the obnoxious habit of expectorating in public conveyances and buildings; to promote action against the sale of impure ice cream (another very fruitful source of disease); to direct the attention of the authorities to the Act relating to betting and gambling in public places; and to agitate against the constant digging up of the highways to the great inconvenience of the community.

Section III.—To impress upon the municipal and other authorities of the metropolis the necessity of enforcing, as in Liverpool, the registration of street "musicians" and street traders, including newspaper vendors; and to impress upon the railway companies the desirability of freeing their stations and approaches from all idlers and hawkers.

From these statements it will be seen that the association is instituted for the service of the public and that it has at heart the desire to make London—what it certainly is not at present—the best governed city in the world. The propaganda will be carried on by public meetings and conferences; by deputations and petitions to local authorities, to the office of works, &c.; by the publication of health leaflets, of literature relating to Acts of Parliament, by-laws, &c.; and in various other ways.

In conclusion, I would add that if any of your readers are disposed to coöperate in this much-needed movement for the betterment of London, and thus help it to grapple with many nuisances which ought to be abolished, they should communicate with the honorary secretary, Mr. Bowden Green, at the offices of the association, 1, Finsbury-circus, E.C.

I am, Sirs, yours faithfully,

July 5th, 1902. W. B. RICHMOND, President.

OBSERVATIONS ON DIET.

To the Editors of THE LANCET.

SIRS,—Dr. F. W. Forbes Ross dissents from my view that the diet of old people should be spare. He has no sympathy with arguments "metabolical"; he thinks they savour rather of the "diabolical," and that "an ounce of practice is worth a ton of theory." If by this he desires to protest against the all-too-prevalent tendency to base treatment on theoretical considerations rather than upon experience, I am with him. Medical treatment must ever be to a large extent empirical. Nevertheless, *a priori* reasoning may give trustworthy indications, and the physiological arguments in favour of the aged living on a spare diet seem to me to be unmistakeable, mere common sense, in fact. They are, briefly, as follows. In old age the active cells, such as the epithelial, atrophy, while there is overgrowth of the comparatively inert fibrous tissues; and *pari passu* with these retrograde changes there is a general depression in the sphere of vital activity; the vital fire no longer blazes as in the period of lusty youth and prime, but rather smoulders or feebly flickers. Hence the furnace as represented by the tissues requires less fuel in the shape of food than in the earlier years, and not only so, but the atrophied digestive glands are less capable of coping with food and the excretory glands less able to rid the system of the waste products to which it gives rise. Have I thus far pursued my argument on the rock of common sense, or have I been treading the quicksands of mere fanciful theory?

So much for *a priori* argument. But after all, as Dr. Ross observes, questions of this sort must ultimately be decided by practice. Well, my experience is all in favour of the thesis I put forward. I find that the healthiest, and therefore the happiest, and longest-lived, old people are spare eaters.

Let us see what the Doctor commits himself to. He administers to "aged, broken-down, foot-in-the-grave" persons with "cardiac, lung, and kidney complications a generous, good, full diet." He would urge, i.e., such a diet on an old man suffering from frequent attacks of nose-bleeding and giddiness and with a radial blood-pressure of 200 millimetres of mercury—on one, in other words, with the sword of Damocles hanging over him and threatening at any moment to descend and to strike open one of the cerebral vessels. The same generous diet he would recommend (to mention some cases I have under observation at the present moment) to an aged person on the verge of uræmia, to a septuagenarian whose left ventricle is rapidly succumbing before an excessive peripheral resistance, and to an octogenarian with fixed thorax and the victim of agonising asthmatic paroxysms. Each and all of these our procrustean Doctor would subject to the same rigid routine of a full, good, generous diet. No need for him to remind us that "doctors disagree." They do indeed. In their conception of what constitutes a correct dietary for the aged two of them at least are as widely separated as the poles.

But I would not be misunderstood. I do not for one moment contend that a generous diet may not be indicated in certain cases among the old. Few, indeed, are the therapeutic principles that can be accepted unconditionally, and I should be the last to pin myself to any rigid system, realising to the full that the physician who does this, or allows himself to become the victim of a fad, is in very evil case. I should not hesitate cautiously to increase, and even to generous proportions, the diet of a starved, anæmic old man with a low arterial pressure. I am also aware that there are cases, such as those referred to by Dr. Eric Pritchard, of

aged persons whose metabolism has for years been habituated to an excess of stimulating diet and for whom it is not always wise suddenly to reduce the quantity of food to slender proportions. Nor do I forget that exceptional instances are met with—they are in my experience very exceptional—of old people consuming enormous quantities of food without apparent harm. I myself know of a centenarian who on his 103rd birthday freely partook, among other things, of roast pork and baked potatoes, port wine, and whisky. All this shows how difficult it is to dogmatise, how necessary it is to keep one's mind open, and to judge every case on its own merits. But though therapeutics can never become an exact science, we should nevertheless seek to formulate general therapeutical principles for our guidance—rules of treatment which, even though they may not be universally applicable, are yet applicable to the generality of cases. Such a principle is set forth in the aphorism, "Let the diet of the aged be spare." I believe this to be wise counsel, dictated by common sense, sanctioned by tradition, and justified by experience. I am, Sirs, yours faithfully,

Wimpole-street, June 23rd, 1902. HARRY CAMPBELL.

To the Editors of THE LANCET.

SIRS,—In your issue of June 14th last, p. 1724, you did me the honour to print a communication based on an earnestly emphasised exhortation by Dr. Harry Campbell concerning a "spare diet" for the aged in his current series of articles entitled "Observations on Diet." To-day (June 21st) you kindly print communications on the same subject from Dr. Eric Pritchard and Dr. Thomas Dutton (p. 1797). Pray permit me to reply to these gentlemen through your agency.

Dr. Pritchard appears to be more struck with my phraseology than by the real factors of the subject under discussion in which he desires to participate. There is at present no onslaught on Dr. Harry Campbell—nor have I any intention of attempting one—yet, if Dr. Pritchard desires to "shiver a lance" by all means let him do so and not run full tilt at me, armed with a bulrush and mounted on a donkey.

Sarcasm never advanced argument yet, and a proper understanding cannot possibly be arrived at by jumping to a hasty conclusion and rushing *in medias res* simply to get one's oar in, even in the cause of "physiological feeding of the aged," which a "spare diet" is not. Neither Dr. Pritchard nor Dr. Dutton seem to have a clear grasp of the matter in dispute; if they did they would not have succeeded in confusing the issues as they have done. I am well aware of the capacity of Dr. Campbell and when writing to you my disagreement with his "spare diet" dicta I was conscious of what a pitfall the phrase "spare diet" would prove to some. If Dr. Campbell considered it worth his while to support his statements and had stronger reasons for his opinion than I have for mine, then he would no doubt extend and elaborate his subject—especially the terms "aged" and "spare diet." That is, if the whole paragraph in Dr. Campbell's article were not to pass as a remark *en passant*, not to be taken seriously, and to be looked on as "padding" pure and simple for his article.

Dr. Pritchard speaks of alcohol and morphomania, and deduces from them parallels for arguing on "physiological diet." I myself cannot see the connexion, for alcohol and morphia have further and more remote and ultimate actions over and above their immediate effect on administration. They are not "food" but "drugs." Until either Dr. Campbell or myself take the trouble to define what we mean by an "aged person" and "spare diet" neither Dr. Pritchard nor Dr. Dutton can safely intervene. I am speaking of "seniles," persons well over 70—between 70 and 90—and by "generous full diet" I mean a good physiologically nutrient diet, high in proteids, carbo-hydrates, fats, and salts. Dr. Pritchard and Dr. Dutton seem to arrogate to themselves the right to decide what I mean and do not mean. For example, because hay and potatoes contain some small amount of proteid in their composition therefore a "generous good full diet" as used by me should of necessity correlate an elephantine meal of chopped hay or boiled potatoes in quantity sufficient to provide the necessary nitrogen. Dr. Dutton, after 30 years' experience, prefers a diet "rich in nutriment substance." That is exactly what I am contending for, the more nutrient the better, though I claim to give your readers credit for understanding that I did not mean a large meal of boiled cabbage, or potatoes, or turnip tops, or chopped horse food. Dr. Dutton surely believes that your readers and persons to whom you accord the honour of printing their communications have some slight idea that the organs of the aged are more or less worn out, and that fermentative dyspepsia is a digestive trouble of old age. I did not mention them, as I took them for granted, and was well aware that their correction and successful treatment is "part of the game." There's where the "skill" comes in. If Dr. Dutton believes that "spare diet" means a diet of good nutrient quality though limited in amount, then he does not read English as "she is writ." Of course, we may now be told that that was what was meant by "spare diet." Nine medical men out of 10 in general practice interpret "spare diet" to be "cup food," "slops," "little or nothing during the day," "a cup of arrowroot," a little "beef tea" (*sic*), and a small piece of toast, &c. Letting an old person shift for him or herself. May I be permitted to call the attention of Dr. Pritchard and Dr. Dutton to the phrase in my letter "full diet suitably prepared." The only regrettable deduction from the communications of Dr. Pritchard and Dr. Dutton is that, either they hurriedly hastened to vindicate nothing in particular, on the strength of a hasty glance at your pages (a thing never safe to do where THE LANCET is concerned, as others no doubt have learned), bringing to bear on their task the least possible forethought and still less an amount of their vast knowledge and experience, or otherwise they credit me with a more profound ignorance than is usually accorded as the outcome of their everyday experience. These gentlemen would, no doubt, give me credit for knowing the results of over-indulgence after due proof. An earnest assurance from them that they had carefully perused my article in the *British Medical Journal*, Oct. 13th, 1900, and a search and verification of the references given—a task which occupied me for six months—would have made me more disposed to consider their "defence" of Dr. Campbell as really serious.

I am, Sirs, I trust, quite conversant with "metabolism" and with the terms "anabolism" and "katabolism," also with that "blessed word" auto-intoxication, together with their theoretical results, as the armament of the diet specialist. I had hoped that my parenthetical mention of lung and kidney disease would have spared me their being flung at me by Dr. Pritchard—for which much thanks. Complications of old age (from 70–90) are only those complications peculiar to senility, and anyone really conversant with my subject would not drag into the discussion the results of previous riotous living—though even they can be successfully dealt with as part of the "game." Aging as we see it, is nature's mode of killing, and in order to assist the process she calls in weak digestion, loss of teeth, liver, kidney, lung, and heart disease. When the disease complications are the result of fair hard wear and tear they can be restored by "good full generous diet," to a surprising extent. The medical man who plays nature's game for her by "spare diet" simply because there are "kidneys," "liver congestion," "cardiac failure," &c., is very like that general who "marched his men up a hill and marched them down again" because there were persons on the top likely to dispute with him its possession. Rather is it better to flank or enfilade the position than to retreat because of the opposition. This retreat the "spare diet" treatment closely imitates. I have ever noted that your medical scientist, well versed in the "bolisms" and autoisms and what not, is in the end usually found pleading the excuse in justification for his failure in treatment, especially where the very aged are concerned, "Oh, you see, he (or she) was so old, you know"; "Quite worn out"; "You see, the heart was literally used up"; "Run to a standstill," &c. That man was running the "spare diet" ticket; had he run the good, full, generous diet (I don't mean feeding to repletion), suitably backed up therapeutically, he would most probably have got another five to seven years out of his patient. I am not "done for" yet, Sirs, and remain yours faithfully, F. W. FORBES ROSS, M.D. Edin.

June 21st, 1902.

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—The Lord Chancellor made it clear in his speech on the second reading of the Midwives Bill on June 20th that though not unfriendly to the Bill as a whole he disapproves

of the provision (Cl. 1) that *after the year 1910 "no woman shall habitually or for gain attend women in childbirth ..... unless she be certified under this Act."* If this provision is left out no protection whatever will be given to the public against the most dangerous class of untrained women, who will be just as free to practise as they are at present, so long as they call themselves by some other name than midwife. The safeguard afforded by the Bill would be very slight, though undoubtedly a step in the right direction. The Lord Chancellor suggests that those who drew up the Bill had in their minds large centres of population, and had not considered the case of thinly populated districts where trained assistance would be hard to get. But we maintain that the very scarcity of medical help in rural districts makes it the more necessary that skilled midwives should be available, and as long as untrained women are allowed to habitually practise it is useless to look for an adequate supply of competent ones.

During the eight years that would elapse before this provision comes into force there would be ample time to organise and increase the means of midwifery training all over the country. The Lord Chancellor points out that as a rule the midwife in country districts acts also as maid-of-all-work in the house during the mother's illness. That is in very many cases true, and it is surely another reason for insisting that she should have a certain amount of training and a knowledge of the paramount necessity of antiseptic precautions in the sick room. Many are the cases in which fatal injury has been done to mothers by women coming direct from field labour or various uncleanly occupations to attend them in childbirth, and it is well known that want of cleanly attention at birth is the cause of a large proportion of the cases of blindness and impaired sight in this country. Being trained as a midwife would in no wise prevent a woman from carrying on other avocations in the intervals between her cases. It is often forgotten that the word "habitually" in this clause leaves a wide margin for freedom of action in cases of emergency, or for the individual preference of patients. Anyone could still freely go to the help of a neighbour in distress; a mother could nurse her daughter or friend go to friend, if for personal reasons or in sudden cases the midwife was not to be had. But we maintain that if any persons "habitually" undertake this work ample cause has been shown why they should be obliged to duly qualify themselves for it.

We believe that much of the opposition that has been shown to this clause is due to the fact that people imagine that all "friendly aid" from one neighbour to another will be put an end to. That this fear is unfounded the above explanation will show. That, also, we think may be at the root of the objection of the clergyman quoted by the Lord Chancellor who said there was very serious objection to the Bill on the part of the working classes. Wherever to our knowledge meetings have been held and the details of the Bill laid before them the very strongest feeling in favour of it has been manifested, and many and very numerously signed petitions from working men and women have been sent to the House of Commons in favour of this legislation.

On behalf of the Association.

KATHERINE BALFOUR OF BURLEIGH,
President;
A. MABEL BRUCE,
Chairman of the Executive Committee.

Association for Promoting Compulsory Registration of Midwives, July, 1902.

THE MEDICAL SERVICE OF THE MERCHANT MARINE.

To the Editors of THE LANCET.

SIRS,—With reference to a letter in your issue of June 28th, p. 1857, from Dr. W. T. Burres *re* the position, social and financial, of surgeons in the merchant service, I should just like to say how thoroughly I agree with Dr. F. B. Ryan's answer in THE LANCET of July 5th, p. 45. As a former surgeon in the P. & O. Company, and speaking of the ship surgeon's lot from that standpoint, it has always appeared to me ever since I joined the company that a ship surgeon has singularly little at which to grumble. The position never seemed in any danger of being lowered in the eyes of either passengers, officers, or crew, and from my own experience and that of other P. & O. surgeons if a man did find himself given the cold shoulder it was almost a certainty that it was his own fault. The pay was £10 a month, and no one need grumble at that, especially if he only thinks for a moment that in addition one was seeing the world, or a good part of it, meeting as good men as ever one could wish to meet, being lodged and fed at least as well as the most fastidious could require, and (here most men will bear me out) doing work that, as a rule, might have been a good deal heavier without unduly taxing one's energies.

The average man who, looking back on the days when he was ship surgeon, can honestly say that he is sorry he ever went to sea or that he did not have a good time when there has only himself to thank for the character of his reflections. In isolated instances events have occurred at sea which have coloured a man's whole life unfavourably, but these are exceptions and taking the general run of things the ship surgeon who does not thoroughly enjoy his time has to thank either his physical or social disposition.

Dr. Burres calls "steamship doctors" a "most abject class of practitioners." If a man is abject at sea he will be equally, or more so, ashore; so there would seem little chance of the profession benefiting by the return of those gentlemen to civil or shore life if Dr. Burres is right, which I venture to deny, in his estimate of their character. My memory of happy times as a ship surgeon and my possession of good friends gained while acting in that capacity will perhaps excuse my troubling you with this letter.

I am, Sirs, yours faithfully,

ANDREW B. BLAIR, M.B., C.M. Edin.,
late P. & O. S. N. Co.

Eversleigh, Banwell, Somerset, July 6th, 1902.

PRECOCIOUS CONCEPTION.

To the Editors of THE LANCET.

SIRS,—With reference to an article on the above subject which appeared in THE LANCET of June 7th, page 1601, I may say that in October, 1883, I attended in labour a girl who was born at the end of the year 1868 and delivered her of a living, mature male child. The case occurred in a hamlet some miles from here, the patient being in charge of the local *sage-femme*. The age of the child-mother was 14 years 10 months. She made a good recovery and for aught I know the child may still be living. While writing I may state that in May, 1897, I delivered a married woman who gave her age as 50 years, of a living child having, however, to use the forceps to do so. These two cases demonstrate the youngest and oldest mothers in my obstetric experience. By reference to Guy's Forensic Medicine I find several cases recorded in which the mothers were younger and older than those I have mentioned.

I am, Sirs, yours faithfully,

C. H. L. JOHNSTON, M.D., L.R.C.S. & L.M. Edin.

St. John, N.B., Canada, June 24th, 1902.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION.

To the Editors of THE LANCET.

SIRS,—In reply to Mr. J. MacMunn's letter respecting "A New Method of Keeping in Apposition the Edges of Surgical Incisions and Wounds in order to Promote Union," I beg to suggest that he cannot have read carefully the description of the appliance which I gave in THE LANCET of June 28th, p. 1839, nor can he have noted particularly the method of inserting it. There is just that difference between my appliance of to-day and the one introduced by Mr. MacMunn 18 years ago "that makes all the difference." The structure of the former enables it to be driven into the flesh with astonishing ease, *not as one would push in two parallel and ordinary curved needles, but by a rotatory movement upon the centres of the semicircular prongs*, and thus the points should never protrude through the flesh.

Unfortunately, no illustration or letterpress can give anything like an adequate idea of the facility with which my appliance can be introduced and withdrawn once the knack has been acquired. More than one of the distinguished surgeons who have done me the honour of manipulating it have at once perceived that a certain knack is necessary which

is instantly acquired when seen. Mr. MacMunn may at first sight see some resemblance between his design and mine, for all clamps may be more or less alike. But his requires a cork to be placed over the protruding points after insertion—a clumsy, unscientific, and impossible method, as the past 18 years have eloquently demonstrated. However, I shall shortly have some results of trials that are now being conducted in some of our largest London hospitals to submit to those who may be sceptical, and in the meantime I shall be most happy to demonstrate the application of the new clamp by the side of Mr. MacMunn's before any unquestionable surgical authority he may select.

I am, Sirs, yours faithfully,

Surbiton, July 6th, 1902. HAYDN BROWN, L.R.C.P. Edin.

THE SEED AND THE SOIL.

To the Editors of THE LANCET.

SIRS,—The admirable and instructive lecture and leading article which appeared in THE LANCET a few weeks ago[1] have brought the "seed and the soil" subject before your readers in a way calculated to impress the memory with some sound and useful facts. No doubt in the growth, spread, and fatality of disease, especially of epidemic diseases, the soil or the bodily state has more to do with the untoward results than the quality of the seed sown. If the body or soil is in a healthy, robust state the seed sown fails, but if the body is in a state of cachexy or low vitality the soil may bring forth some a hundredfold, some sixtyfold, some thirtyfold. But the resisting or receptive power of the body or soil depends for the most part on the climate or locality in which it is situated. If the climate or locality is all that can be desired from a sanitary point of view the soil is healthy and resists contagion, but if otherwise the body or soil lies open to receive the seed or microbe of disease wherever it comes from. And of all the preventives of disease there is none that can be compared to a good and perfect drainage of the environments of the soil or body.

Before the main drainage of Lincoln was effected its sanitary state was as bad as it could be. The sewage ran into cesspools and there was allowed to ferment and to putrefy and to fill the air with noxious effluvia. Dysentery, diarrhœa, and typhoid fever prevailed, and consumption was so common that Dr. Thompson of the Brompton Hospital for Consumption, in his Clinical Lectures on Pulmonary Consumption, remarked on it. The disease was most frequent among women who remained at home in their houses, but their husbands who spent their days away from home in the fields generally escaped contagion. When the main drainage was accomplished a rapid improvement in the health of the city took place and now in this "coronation year" typhoid fever and consumption seem to be dying out, and although we have recently had a slight outbreak of scarlet fever, still the death-rate is only about 14 in 1000, and I hope that when the sower goes forth to sow the seeds will fall by the wayside and the fowls of the air will come and devour them up.—I am, Sirs, yours faithfully,

WILLIAM O'NEILL, M.D. Aberd., M.R.C.P. Lond.

Lincoln, July 5th, 1902.

INSANITY AND THE DEATH PENALTY.

To the Editors of THE LANCET.

SIRS,—My attention has just been drawn to an article in THE LANCET of June 21st, p. 1782, with reference to the trial for murder of the unhappy man Simmons at the recent Dorset assizes, and I shall be glad if you will allow me to say a word in reply upon the facts of the case which may be of interest to your readers from a scientific point of view, as well as a matter of fairness to the prisoner. The writer has picked out the salient facts without reference to any of the minor events which qualified them, and upon these facts he has assumed that the theory of the prosecution that this was a deliberate crime "committed by an angry man upon a woman who had refused (apparently) to respond to his passion" was proved; but this is exactly what the prosecution utterly failed to prove, and it was obvious to everyone who heard the evidence that the suggested motive for the crime was absolutely broken down and for ever gone long before the close of the prosecution, and I have the authority of Dr. Weatherly and Dr. Morton for saying that unless they had been previously satisfied of the untruth of the theory of the prosecution and of the consequent want of motive for the crime they could not have expressed the confident opinion on the case which they did in the witness-box. I am, Sirs, yours faithfully,

A. WENTWORTH MALIM,
Solicitor for the Defence.

Weymouth, July 2nd, 1902.

[1] THE LANCET, May 10th (p. 1297) and June 28th (p. 1843), 1902.

THE PUBLIC HEALTH SERVICE AND THE CORONATION HONOURS LIST.

To the Editors of THE LANCET.

SIRS,—While agreeing generally with your admirable leading article on the Coronation Honours in THE LANCET of July 5th, p. 31, and while also fully endorsing your statement that "the general design of the Crown, and of the advisers of the Crown, appears to have been to do ample justice to workers in the cause of humanity at large," may I venture to draw attention to the altogether remarkable omission from the honours list of that great service of the State which is responsible for the health of the people? This service through its untiring efforts is instrumental in saving annually thousands of lives. It is gradually prolonging the average duration of life on the planet, and, by improving the physical conditions under which the poor live, it is carrying on a work which has no parallel in history. This service exercises a leavening and altogether non-political influence throughout all grades of society, and the force which it represents is, perhaps, if read aright, the most far-reaching anti-revolutionary power of modern times. Nevertheless, this service has received no recognition whatever in the recent honours list.

Perchance, had the victories of preventive medicine in Great Britain been less complete, and had bubonic plague invaded our shores, and small-pox spread broadcast over the land, the conditions would have approximated more to those of the field of battle, and decorations might have been bestowed upon the service on almost military lines. It may possibly be that the martial spirit of the moment has led the advisers of the Crown to attach less importance to the saving of human life and to the improvement of its conditions. But whatever the explanation the omission is none the less remarkable.

It would be obviously absurd to suppose that the monarch who happily still reigns over us, and with whose name the pregnant query, "If preventable, why not prevented?" will always be associated, would have allowed this omission had the claims of this service been adequately put before him. The deep interest taken by His Majesty in the housing of his poorer subjects and in the prevention of tuberculosis and cancer is sufficient in itself to negative any such view. Moreover, I read the signs erroneously if I do not detect in the list of honours the keenest sympathy of King Edward VII. for the worker whatever such work may be. In this sense the honours list is, in my opinion, altogether unique. Nor can I believe that the able and vigorous Cabinet Minister who is responsible for the sanitary service of this country has failed to lay before the proper authorities the claim of those who, in the prevention of plague and small-pox, and in the routine work of public health have so well supported his efforts. Mr. Walter Long must, above all others, be aware of the signal services rendered to public health by the labours of his own medical department, and by those numerous medical officers of health who in our ports and towns have borne the brunt of the attack.

But there is something strangely anomalous in the fact that honours should have been showered, and justly so, upon those who have defended the honour of the Empire in the battle-field while those who in the paths of peace have kept disease from our shores, and have made the name of England synonymous with sanitation should upon a historic occasion such as this have been passed over in silence. If, Sirs, it were possible that on each New Year's Eve, as the ebbing year flows into the ocean of time, there should be a march past of all those men, women, and children whose lives preventive medicine had saved during that year, a spectacle would be witnessed which would cast martial displays into relative insignificance, and which would awaken in the minds of the onlookers some

conception of the work done quietly and unostentatiously by the medical officers of health throughout the country.

I am, Sirs, yours faithfully,

July 7th, 1902. ANTITOXIN.

To the Editors of THE LANCET.

SIRS,—In the concluding sentence of the leading article in THE LANCET of July 5th, p. 31, you refer to the list of naval and military honours, so far as they affect medical departments, as completing a gratifying total of distinctions accorded for public services to the profession. But surely exception may be taken to that view, inasmuch as not a single honour has been bestowed on "the service" which is specially devoted to civil sanitation, administration, and public health.

It will be remembered that His Gracious Majesty in his famous speech at the International Congress in 1891 showed how desirous he was of encouraging not only the scientific study of the causes of diseases but also, what is at least equally important, the application of existing knowledge to the public benefit through improved methods of administration. The last 25 years may be said to have been very conspicuous in the annals of preventive medicine by the development of this work and the gradual formation of a department which in a wide sense may be said to be of great practical value distinct from that of the Local Government service generally. If we only consider the services rendered in connexion with some of the epidemic diseases most dreaded in this country—cholera, small-pox, and plague, for example—there is surely enough to justify the claims to distinctions and rewards of a body of professional men who have sacrificed many opportunities of pecuniary advantage, besides incurring special risks, and who bring to their work literary and scientific attainments together with official zeal, tact, and discretion. It should, however, be insisted that it is not on exceptional occasions only, but in the daily life of every great municipality or district, that the above-mentioned services are of great and immediate practical importance. It needs a long and intimate knowledge of our Local Government system to appreciate fully the essential value to the public of fairly well placed medical and sanitary officials. Vast sums of money are year by year loaned to and expended by sanitary authorities. In the direction and control of this expenditure the important assistance already rendered by able and experienced medical officials ought in simple justice to be recognised. For this reason alone, and purely as a matter of public policy, it is time to protest against the "Service" being continually ignored. It is, indeed, hardly conceivable that His Majesty would not have considered the claims of the civil sanitary medical service had they been properly explained.

It is now more than half a century since medical officials began to serve the State, municipalities, and local authorities generally, and yet during the whole period of ceaseless and growing activity not more than five or six titular distinctions have been conferred for public service of this kind.

I am, Sirs, yours faithfully,

July 7th, 1902. ADMINISTRATOR.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Subsidence of the Plague Epidemic.—Training-ship for Eurasian Lads.—Sewage Schemes for Bombay.—Suburban Drainage for Calcutta.

DURING the past fortnight there has been a marked decline in the plague mortality throughout India. On June 4th 4214 deaths were recorded, but on June 18th only 1316. It is a long time now since the plague mortality touched such a low point. Although greatly lessened the disease still clings to the same infected districts. The detailed figures for the past week are: Bombay City, 82 deaths; Bombay Presidency, 169; Karachi, 35; Madras Presidency, 12; Calcutta, 65; Bengal Presidency, 37; United Provinces, 36; the Punjab, 776; and Mysore, 103. The plague has never been very severe in the Madras Presidency, but it sticks there as tenaciously as in other places.

A very excellent scheme is on hand, promoted largely by Dr. J. R. Wallace of Calcutta, for establishing a training-ship for Eurasian lads. This if successful will provide an outlet for a considerable number of the boys of this community who are now handicapped in many ways in getting employment, and, moreover, it will provide a training for them which will correct some of their Indian native habits. It will be still further useful as an ultimate recruiting-ground for the mercantile marine.

Some very important sewage schemes are likely to be carried out in Bombay. These concern the Malabar Hill district on the south and west, and some villages on the north and east of the island. It will be remembered that for part of Bombay City the Shone system is in force and it was at first proposed to extend this system to the Malabar Hill district. It is now proposed to divide the district into three portions. One is to have the Shone system, a second is to have the sewage treated biologically, and the third will be drained partly by an arrangement of lifting the sewage into a gravitating station. Most interest centres in the proposed septic tank which will be located near the foreshore. It will serve a population of nearly 6000 and 300,000 gallons daily of sewage flow are calculated for. The sewage will first discharge into a closed septic tank and will flow through at the rate of a few feet per hour. The effluent from the septic tanks, in which 80 per cent. purification is expected, will flow on to a series of six bacteria beds for final purification. The effluent will remain in these beds for from two to six hours, according to the daily level of the tide. The resulting final effluent is expected to be free from any suspicion of sewage contamination. The gas from the septic tank will be used for lighting the installation at night. It is estimated to cost about £20,000. Some of the villages will be drained by open sewers as gradients for closed pipes are not possible and the sewage will be treated first by an open septic tank and afterwards on a sewage farm. It has previously been found at the Matunga sewage farms that one acre of land can successfully dispose of 5000 gallons a day. Crops will be grown of lucerne and all kinds of vegetables. It is considered probable that the proposed farm will prove a paying concern. These schemes are the work of Mr. C. C. James who has been so successful with the biological treatment of sewage from the Matunga Asylum. The municipality of Calcutta is also very busy with its suburban drainage. This was designed in 1896 and was made of larger diameter than if required for the drainage of sewage only. There is a great conflict of opinion. The sewage is to be discharged from the high-level sewer into a tidal channel at a point about a mile distant from the inhabited parts of the town, whence it will be discharged into the river by tidal action alone. The whole scheme is admittedly experimental and some authorities do not hesitate to foretell disaster. A point hardly sufficiently considered appears to lie in the strong tides and great changes of level in the river Hoogly and I am not at all sure that this will not prove a danger to the sanitary condition of the river opposite Calcutta.

June 20th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Coronation Honour to Professor Oliver J. Lodge.

THE liberal recognition of the medical profession in the list of Coronation honours has been received with much gratification, while the rewards of merit which have fallen to distinguished men of science associated with medicine in many ways have also given the profession pleasure. The knighthood of Dr. Oliver J. Lodge, the Principal of the University of Birmingham, is a case in point. Dr. Lodge came to us two years ago from Liverpool, where his splendid work for 10 years at the University College in that city had gained for him exceptional reputation as a pioneer in electrical research. In Birmingham his distinction is welcomed as a just tribute to his attainments as a contributor to scientific progress and as an able organiser and administrator in the new university.

The Deaf and Dumb Institution.

Among the valuable institutions in our midst few commend themselves more strongly to the benevolent public than those

connected with the training of the deaf and dumb. Yet even here the need for greater pecuniary support is felt. The annual meeting of the Deaf and Dumb Institution was held on June 19th, when the report stated that the ordinary expenditure was £7321 and the income £6200. The education of the children is provided for as a necessity under the Deaf and Dumb Education Act which has been in force for about eight years; it compels every child to be educated and in this institution the training is efficient and complete. By means of the apprentice system suitable training is provided and work is found for the pupils, so that their abilities can have full play. The King has kindly consented to be a patron of this institution and every effort is being made to increase the income.

Accidents in Birmingham.

The rejoicing at the time appointed for the Coronation was in many cases not discontinued, though it might be chastened, on account of the serious illness of the King. The occasion had been set apart as a time for jubilation, work had been discontinued, and there was an evident intention on the part of many to behave as if the holiday had been undisturbed. As a result there were numerous accidents to record in Birmingham. At the General Hospital during 24 hours there were 75 casualties dealt with on Coronation Day and the same number on the previous day. At the Queen's Hospital some 60 cases were dealt with during a similar period of 24 hours, all being more or less serious accidents and injuries. The placing of lines for decorations so low down in the smaller streets that drivers and passengers on vehicles were caught by them in driving through the districts was responsible for several unpleasant injuries, leading to a protest by the coroner during the sitting of his court.

Hospital Sunday Fund in Birmingham.

The annual meeting of the promoters of this fund was recently held to appoint a committee and arrange for this year's collection. The date was fixed for Oct. 26th. It was pointed out that since the fund was instituted £203,000 have been handed over to the medical institutions and charities of Birmingham, and a desire was expressed that no efforts should be spared to make the collection worthy of the occasion this year.

Hospital Saturday Fund in Birmingham.

The collection by this organisation is a splendid example of what may be done by well-directed and systematic efforts. In the principal workshops and factories of the city a collection is made week by week from the employés on behalf of the medical charities of Birmingham and the four convalescent homes belonging to the contributors to the fund. Saturday, June 14th, was set apart for the total amount to be handed in to the fund. The street collection this year was wisely discontinued. A sum of £15,930 7*s.* 8*d.* has been received and it is expected that when the accounts are made up the year will be a record one.

July 8th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Stanley Hospital: Critical Condition.

THE finances of the Stanley Hospital are considered to be in a very critical condition. At the end of 1901 the debt on the institution was £5000. The worst feature of the matter consists in the fact that the expenditure exceeded the income by £1700. It would probably not be difficult to clear off the existing debt by a special effort on the part of the committee, but there is no concealing the fear that, unless the annual subscription list be considerably enlarged the hospital, or the greater part of it, may have to be compulsorily closed. At present 20 beds out of 80 are unoccupied, not because there is no demand for them, but because of the poverty of the charity. The Stanley Hospital is situated in the poorest part of the city and is doing admirable work. Last year the number of attendances of out-patients was 56,952. Only a statement of these facts is needed to bring out a liberal response to the appeal of the committee for funds in order to avert the catastrophe of closing an institution which has done so much good for the poor of the north end of the city. The hospital has had a very good surgical record, and no less than five members of its honorary staff have been promoted to honorary posts at the Royal Infirmary.

The African Association and the School of Tropical Medicine.

The African Association, Limited, has given a further grant of £100 to the Liverpool School of Tropical Medicine.

The Home for Epileptics at Maghull.

At the annual meeting of the Home for Epileptics at Maghull it was stated that £800 were still required to enable the committee to claim the £1000 promised by Sir Alfred L. Jones, conditionally on a further £9000 being raised, for the purpose of providing land to give employment to patients who had been trained to work and of extending the accommodation generally. Towards this deficiency Sir Thomas Brocklebank has liberally supplemented his previous generous benefaction by contributing £250. The amount required is thus reduced to £550, and the committee is making a strenuous effort to prevent Sir Alfred Jones's generous offer from proving abortive.

The Coronation Honours.

Dr. Oliver J. Lodge, F.R.S., one of the recipients of the honour of knighthood in the Coronation honours list, was appointed Professor of Physics at University College, Liverpool, in 1881. He held that position until 1900, when he became the principal of Birmingham University. Dr. Lodge has made important researches into the nature and properties of ether. These contributions to science gained for him the honour of a Fellowship of the Royal Society.—Major Ronald Ross, F.R.S., late I.M.S., upon whom the distinction of a Companionship of the Bath (Civil) has been conferred, was for some time director of the Liverpool School of Tropical Medicine. He conducted an important series of expeditions in the West Coast of Africa to investigate the origin of malaria. Major Ross is chiefly responsible for the investigations which established the association between malarial fever and mosquitoes. In 1881 he entered the Indian Medical Service. The special study of the life-history of malarial parasites was begun by him in 1892.

Proposed Sanatorium for Tuberculosis for Cheshire.

The health committee of the Cheshire County Council has reported favourably on the desirability of establishing a sanatorium in Cheshire for the treatment of patients suffering from tuberculosis resident in that county. Liverpool possesses a splendid institution of the kind at Delamere Forest, but Cheshire patients have scanty prospects of admission to that institution owing to its crowded condition.

National Union of Sanitary Inspectors.

The sixth annual conference of the National Union of Sanitary Inspectors was held in Southport last week. Mr. William Daley, chief sanitary inspector of Bootle, read a paper entitled, "Are the methods of disinfection as usually carried out by sanitary authorities efficient?" He asserted at the outset that the way in which disinfection was carried out rendered the work of dealing with infection abortive, and that men engaged in the prevention of the spread of disease were sometimes active disseminators of infection by transmitting the disease through their infected clothing. Mr. Bland (Urmston), Mr. Pears (Wolverhampton), and Mr. J. J. Weaver, the medical officer of health of Southport, took part in the discussion which followed; the latter advocated the old-fashioned sulphur disinfectant.

July 8th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cottage Hospitals for Monmouthshire.

THE question of establishing a cottage hospital at Tredegar in Monmouthshire has been under discussion for many months, and the workmen employed at the Tredegar collieries and ironworks have at length decided by ballot to contribute one halfpenny a week each towards the maintenance of the institution. By this means nearly £400 yearly will be raised. Lord Tredegar has given a site adjoining a large public park, and it is proposed to erect a building to cost about £2000.—At New Tredegar a hospital is to be erected and the whole cost of the building will be defrayed by the Powell Duffryn Colliery Company, while the maintenance and management will be in the hands of the workmen.

In this instance also the site has been presented by Lord Tredegar.

Habitual Vagrants.

As long ago as 1895 the master of the Ledbury workhouse suggested to a conference of Poor-law guardians assembled at Malvern that farm colonies should be established to which habitual vagrants could be sent and detained and set to work. The Poor-law Unions Association has now suggested a scheme embodying this principle and on June 20th the Bristol board of guardians supported the proposal of the association but expressed the opinion that the cost should be borne by the State rather than by combinations of unions. The scheme is briefly this—a vagrant found for the third time in a particular casual ward would be sent by a magistrate to a labour colony and detained there for a period of not less than one year, and not more than three years; the vagrant would be given a percentage of his earnings at the time of his discharge and if there was evidence of his having acquired regular and industrious habits he could be let out on licence prior to the expiration of the period of his detention; able-bodied inmates of workhouses could be sent on the order of a magistrate to a labour colony; and the colonies would be classified according to trades and a labour bureau would be established in connexion with each colony. The Bristol board of guardians considers that the way-ticket system adopted in Gloucestershire and for some time in Berkshire should be made universal, so that *bonâ-fide* working men travelling from one centre to another in search of work could be identified and separated from idle wanderers in the workhouses at which they called.

Brentry Home for Inebriates.

At the meeting of the Somersetshire County Council held on July 1st it was decided on the casting vote of the chairman to contribute an additional sum of £250 to the Brentry Home for Inebriates. During the discussion of the question there was considerable difference of opinion as to the usefulness of the institution, in which there is now accommodation for 200 patients and which has for the past six months been able to pay its way. Mr. Warry, K.C., said that his experience of 30 years in the administration of criminal justice of every form led him to think that inebriates' homes were not worthy of their contributions, while Sir Edward Fry, on the other hand, advised the council to continue to support the home, the reports from which showed that it was doing good work.

Mr. Andrew Carnegie's Libraries.

Mr. Andrew Carnegie has presented £2000 to Bridgend for the erection of a free library, £6000 to Merthyr for a central library and six branch libraries, and £8000 to Barry for a central library. In the case of Barry it has been the intention of the district council for some years past to expend £2000 upon a library building, and if this sum is now utilised in the erection of a much-needed small-pox hospital Mr. Carnegie's gift will have an added value. Is there no millionaire who could be persuaded to scatter isolation hospitals over the country as Mr. Carnegie is distributing free libraries!

Health of Cornwall.

The sanitary committee of the Cornwall county council in its annual report for 1901, which has just been issued, states that the population of the county is estimated at 322,808. The births numbered 7902, corresponding to a rate of 24·47 per 1000. The deaths amounted to 5154, giving a death-rate of 15·96 per 1000. 291 deaths were caused by cancer, being 26 in excess of those in 1900. The mortality from consumption was stated to be 1·49 per 1000, as compared with 1·38 in the preceding year.

Vaccination Expenditure.

At the meeting of the Chepstow board of guardians held on July 3rd the vaccination committee presented its report upon the fees paid to the public vaccinators. The amount of these fees being considered excessive a committee was appointed to go into the matter, but instead of being able to suggest any reduction in the fees it recommended increasing them in four districts. The committee stated that in two districts the public vaccinator had been only charging 6s. 6d. per case whereas he was entitled to 9s. The committee pointed out that the public vaccinators had often to go three, four, and even six times to the people's houses, for it was most unusual for two visits to suffice, and there was also a large amount of clerical work. The guardians, after some discussion during which the Vaccination Act was much condemned by some of those present, decided to follow the recommendation of the committee and also to pay the public vaccinator the difference of the fees which he had undercharged.—At the meeting of the Devonport board of guardians held on July 4th a considerable discussion took place with regard to the question of revaccination fees. It was pointed out that in the opinion of counsel those who published the names of persons who had been revaccinated might get themselves into trouble for the Vaccination Act was intended to apply to all alike, both rich and poor. Eventually the following motion was carried:—

That requests be made for repayment of fees by those who, in the judgment of the Finance Committee, are in a position to pay.

At the meeting of the Penzance board of guardians held on July 3rd it was reported that the cost of revaccination during the past six months amounted to £83. One of the guardians moved that all the guardians should do all in their power to get the Vaccination Act amended. After some discussion this was carried.

July 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Addison's Disease by Injections of Suprarenal Extract.

AT the meeting of the Therapeutical Society held on June 25th, M. Hirtz read notes of two cases of Addison's disease in which recovery had followed the use of suprarenal extract. One patient in addition exhibited definite tuberculous pulmonary lesions and these healed rapidly under the treatment. Encouraged by these results M. Hirtz has tried the drug in other tuberculous affections and these cases also appear to be doing well.

Medical Institutions in Madagascar.

At the meeting of the Academy of Medicine held on July 1st M. Kermorgan read a report upon recent medical organisation in Madagascar. General Gallièni started a medical school, 16 hospitals, five lazar houses, a maternity hospital, and four infirmaries. By the end of 1902 there also will be in working order 10 hospitals, one lazar house, a lunatic asylum, and a sanatorium for tuberculous patients. The Malagasys's notions of hygiene leave much to be desired, for they neglect the most elementary rules on the subject and personal cleanliness is almost unknown among them. Some of their customs are deplorable—for instance, they keep their dead three or four days before burial, during which time they hold a regular "wake" accompanied by a gorge of food and alcohol. Once a year, too, they visit the tomb, take out the corpse and change the grave clothes. The houses are badly built and badly ventilated, the ground floor being shared in common by cattle and men. Among the most frequent diseases are malaria, tuberculosis, leprosy, and alcoholism. In order to fight against this last scourge General Gallièni begs all officials and soldiers to set an example of moderation.

The Residents at the Lariboisière Hospital.

Last March relations between the Assistance Publique and the resident hospital officers (*internes*) became very strained. The latter, whose pay varies from 50 to 80 francs per month, asked the faculty that they should not be compelled to live in the hospital but should receive instead the allowance of 50 francs per month to which they are entitled by the regulations of the Assistance. A special committee was appointed to inquire into the matter and this committee reported that the old system should be adhered to, seeing that the interests of the patient demanded that some one should always be on duty in the hospital. Fresh difficulties have now arisen between the resident officers of the Lariboisière Hospital and the authorities of that institution. The residents have just given up attending in the duty room. They have, moreover, written a long letter to M. Mourier, the Director of the Assistance Publique, in which they set forth certain grievances which they have against M. Faure, the director of the hospital. They maintain that the only way out of these difficulties is that they should be allowed to live outside, coming in with the surgeon or physician of the day, and also making the usual round of the wards in

the evening. They also ask M. Mourier to see that the men on duty in the hospital should have *déjeuner* or dinner according to their period of office. M. Faure declares that all this to-do is owing to females having been forbidden entrance to the duty rooms. This rule was recently made obligatory on all the hospitals, but M. Faure was the first to carry it out.

July 9th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Ontario Medical Association.

ONE of the most successful annual meetings of the Ontario Medical Association was that which was held in the city of Toronto on June 4th and 5th. Nearly 200 medical practitioners were present, all sections of the province being represented, and as evidence of the interest taken in this association fully two-thirds of the papers were contributed by physicians residing outside of Toronto. Dr. Newton Albert Powell, the president of the association, occupied the chair, while Dr. Harold C. Parsons, also of Toronto, discharged the duties of secretary. Dr. John T. Fotheringham had charge of the committee on papers and business and Dr. J. Milton Cotton, also of Toronto, of the committee on arrangements.

Six excellent papers were read at the morning session of the opening day: Deformities Consequent upon Injury, either Traumatic or Pathological, to the Epiphyseal Cartilages in Long Bones, by B. E. McKenzie of Toronto; Some Points in Life Insurance, by John L. Davison of Toronto; Transplantation of the Omentum into the Abdominal Wall for the Relief of Ascites due to Cirrhosis of the Liver, by George A. Peters of Toronto; The Cure of Chronic Bright's Disease by Operation, by Alexander Primrose of Toronto; Tonsillar Hypertrophy, its Operative Treatment, and the Comparative Value of the Different Methods, by Perry G. Goldsmith of Belleville; and Some Comparative Results of the Medical and Surgical Treatment of Appendicitis, by J. P. Armour of St. Catherines. All these papers were provocative of interesting and valuable discussions, especially that on life assurance by Mr. Davison. As medical director of a large Canadian life assurance company Mr. Davison emphasised the importance of medical examiners making accurate returns of their examinations, pointing out at the same time that it would be of very great service to the medical director of any company if examiners would send them a private letter on the condition of the applicant, which letter would always be held strictly confidential. Mr. Davison gave some interesting statistics showing the amount of money which insurance companies were paying annually to the medical men in the United States and also in Canada. The discussion turned mainly upon the fee paid for such examinations, the consensus of opinion being that three dollars for a minimum policy was too small; it ought to be at least five dollars. Another paper which was listened to with a good deal of attention was that by Dr. Peters on the transplantation of the omentum. Dr. Peters exhibited this patient, a man, apparently 50 years of age, who was now seemingly in sound health. Photographs were exhibited showing the enormous abdominal distension prior to operation, and in illustrating this still further Dr. Peters got his patient to draw on a pair of pantaloons which he had worn when his abdomen was distended. The waist-band of these trousers measured 64 inches.

On the assembling of the meeting in the afternoon Dr. Powell delivered the annual presidential address. The points mainly touched upon had relation to the medical legislation before the Ontario Legislature and the Dominion Parliament at their last sessions respectively. Regarding the attempt made to reform the Ontario Medical Council by the elimination of the homœopathic and college representatives from that body, the President stated that he had considered it his duty as chief executive officer of the association to oppose that legislation because it was not fair, having once made an honourable bargain with the homœopaths, to cancel it *in toto* without as much as saying "by your leave." Referring to the measure for a Dominion Medical Council, so successfully promoted and carried through the Dominion Parliament by Dr. Thomas G. Roddick, M.P., he thought the Bill had been so emasculated that it was now practically a measure for neither very much good nor very much evil. The amendment to the Canada Evidence Act providing in medico-legal cases for a board of expert witnesses from three to five in number he considered a move in the right direction.

The regular business being again resumed, Dr. J. Algernon Temple, Professor of Obstetrics in the Trinity Medical College, Toronto, presented a paper on Ventro-Fixation, its Value and Results. Dr. Temple condemned this operation which he considered both impracticable and unscientific. The meeting here divided into sections. In the Obstetrical section the following papers were read and discussed: Placenta Prævia, by H. D. Livingston of Roacwood; How Best to Meet Obstetric Emergencies, by C. J. C. O. Hastings of Toronto; Notes on Five Cases of Ectopic Gestation, by R. E. Webster of Ottawa; and the Treatment of Septic Abortion, by Kennedy McIlwraith of Toronto. In the Medical section the following were the papers: Pneumonia, by David Hoig of Oshawa; The Treatment of Pneumonia, by J. C. Mitchell of Enniskillen; A Recent Epidemic of Cerebro-Spinal Meningitis, by Alexander McPhedran of Toronto; Primary Tracheal Diphtheria, by R. D. Rudolf of Toronto; Where can our Consumptives Best be Treated? by J. H. Elliott of Gravenhurst Sanatorium; and Pleurisy with Effusion, by D. Gilbert Gordon of Toronto.

"Medical Testimony in Courts of Law" was the title of an interesting and timely address delivered at the opening of the evening session by His Honour Judge MacDougall of the County Court, Toronto. His Honour pointed out how conflicting medical and other expert testimony often was, which he considered arose chiefly out of the method of securing and employing such witnesses. For this he suggested the remedy which would make the expert an assistant or adviser to the court. And their reward should not depend upon the parties in the suit but should be provided by the State. He considered that the new Act limiting experts to three, or five if asked for before the trial began, was a move in the right direction. He urged medical men to give their testimony in popular and not in technical language. Mr. I. H. Cameron, M.B. Toronto, discussed the paper. Mr. Cameron has had a great experience as a medical expert and his opinions were listened to with great interest. He thought that the popular criticism of the experts was a harsh one, because the public did not understand the difficulties under which the experts worked, as they were not testifying upon facts but simply giving opinions on facts. He considered that unanimity could not be expected in the present state of medical science, which rendered two views possible and likely in every case. All medical men would welcome any such change in the law as that suggested by Judge MacDougall. Then followed a paper on the Status of the Hospital Interne in Ontario, by Dr. H. S. Hutchinson, himself a resident of the Toronto General Hospital. He favoured a change from the present system prevailing in the hospitals of the province. Now they were appointed all at once at a stated time for a year's service. An eighteen months' service would be better—appointments to take place every six months. "Dry Labours" was the title of an able paper contributed by Dr. Adam H. Wright, Professor of Obstetrics in the Medical Faculty of Toronto University. Dr. Wright described his method of dealing with these cases and recorded observations on 22 cases. Two lantern demonstrations concluded the evening's programme. The first was conducted by H. A. McCallum of London and was on Functional and Organic Diseases of the Nervous System; and the second was by C. A. Hodgetts of Toronto, inspector to the Ontario Board of Health, and was on Anomalous Forms of Small-pox. Both of these demonstrations were highly educating and eminently practical.

The morning of Thursday was very largely given up to the presentation of clinical cases. This proved a new and interesting feature, an improvement on the addresses in medicine and surgery which were wholly eliminated from this annual meeting. The following were some of the cases presented, reported, and discussed: Situs Inversus in a Child; Leontiasis Ossen; Scleroderma; Charcot's Disease of the Hip (in a young man aged 30 years); Pseudo-Hypertrophic Muscular Paralysis; Muscular Dystrophy; Lateral Sclerosis; Adenoma Sebaceum (in a young woman aged 23 years), showing the little tumours well at the side of the nose and on the cheeks (by Graham Chambers of Toronto); An Unusual case of Varicose Veins; Extensive Necrosis of the Skull; Chronic Hereditary Trophœdema of the Lower Extremities; Fracture of the Pelvis in a Child, with Complete Laceration of the Perineum by the Ramus of the Pubic Bone, Subsequent Repair of the Perineum and Bowels and Recovery; Removal of

Stones from the Common Bile Duct; Notes of a Patient whose Abdomen had been opened Eight Times; Three cases of Transplantation of the Ureters into the Rectum for Exstrophy of the Bladder, one in an infant girl, one in a boy aged six years, and the other in a lad aged 12 years (by George A. Peters of Toronto); An Unusual Case of Multiple Peripheral Neuritis; Urticaria Pigmentosa; Marked Disability Arising from Fracture of the Coccyx, Recovery by Amputation of the Coccyx; Chronic Intestinal Obstruction Cured by Operation; Three cases of Pyothorax; and a case of Splenic Leukæmia. After the presentation of these very interesting cases the meeting divided into surgical and medical sections.

In the surgical section papers were contributed on the x rays and patients shown as follows: The Uses of the X Rays other than Diagnostic, by C. R. Dickson of Toronto; The Use of the X Rays in Cancer, Lupus, and Hodgkin's Disease, by J. E. Hett of Berlin; and Results that are being Obtained by the Use of the X Rays, by John MacMaster of Toronto. Three other papers were also contributed to this section: Stricture of the Œsophagus, by Beverley Welford of Woodstock; Hydrobromic Ether, Notes upon its Use as an Anæsthetic in Adenoid and Tonsil Operations, by J. Gibb-Wishart of Toronto; and The Use of Indiarubber Splints in the Deflected Nasal Septa, by J. Price Brown of Toronto.

The following papers divided the attention of the audience in the Medical Section: Climate and Health Resorts of the South-Western States of America, by Dr. C. D. Parfitt, superintendent of the Free Hospital for Consumptives at Gravenhurst; Some Unusual Cases of Syphilis of the Brain and Lungs, by Graham Chambers of Toronto; Cerebral Embolism, by John Gillies of Teeswater; How Much Ophthalmology should the General Practitioner Know, with Special Reference to the Discovery of the Cause of Headaches, by J. T. Duncan of Toronto; Tabes Dorsalis with Involvement of the Cranial Nerves (with presentation of the patient, a man aged 55 years), by H. B. Anderson of Toronto; A Case of Brain Tumour with Interesting Localisation Symptoms (with Specimen), by W. B. Thistle of Toronto; and a Case of Acute Nephritis, by John Hunter of Toronto.

The members adjourned at the close of the morning session to a luncheon provided by the committee of arrangements. Dr. Powell presided and on his right was Dr. Roswell Park, the eminent American surgeon from Buffalo, as a guest of the association. To the many toasts there were bright and happy responses, particularly from, perhaps, the oldest practitioner in the province, Dr. Harrison of Selkirk, who has been practising over 50 years and still continues to practise. He recalled the Coronation of Her late Majesty Queen Victoria and gave many quaint and interesting reminiscences of practice in Canada 50 years ago. On returning after luncheon to the amphitheatre Dr. Roswell Park read a short paper on the Surgery of the Gall-bladder, particularly describing Finney's method of dealing with the gall-bladder, similar to that for a diseased appendix. Dr. Ingersoll Olmsted of Hamilton discussed the paper. He had performed this operation three times with distinct success. The reading of the following papers closed the session:—Fractures of the Shaft of the Femur, by Hadley Williams of London; Removal of the Gasserian Ganglion for Trigeminal Neuralgia, with exhibition of patient, by H. A. Bruce of Toronto; Cancer of the Breast, by T. K. Holmes of Chatham; Technique of the Removal of Tuberculous Cervical Glands, by L. W. Cockburn of Hamilton; Abdominal Neuroses, by D. Campbell Meyers of Toronto; and Remarks upon Some Eye Cases, by George H. Burnham of Toronto. Dr. A. R. Robinson and Dr. S. A. Knopf were present from New York; the latter delivered a short address. The following officers were elected: President, J. C. Mitchell, Enniskillen; Vice-President, George A. Bingham, Toronto; Treasurer, Andrew R. Gordon, Toronto; and General Secretary, Harold C. Parsons, Toronto.

June 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Public Baths for New York.

AT the present time New York proper, with a population of 2,000,000, has one public permanent bath building. It is now proposed to construct three more, for which the city has appropriated $105,000. These are to be opened in July, 1903—that is, if the contractors do the work in time. The buildings will occupy lots measuring 50 by 100 feet and will be suitably furnished for the class of persons who will frequent them. Of the 14 floating baths which the city maintained last year seven are to be closed for sanitary reasons. These baths have been on several occasions suspected of being the means of conveying contagion and were the subject of a report by Mr. Tucker to the tenement house committee.

Cholera among American Troops in the Philippines.

The news from the Philippines with regard to the spread of cholera has of late been extremely disquieting. The disease for a considerable time has been prevalent in and about Manila, but has always been reported as being confined to the natives. Latterly, however, the reports have stated that the malady has broken out among the soldiers. General Chaffee advised the War Department at Washington recently that the army in the Philippines is seriously affected by cholera. Despatches sent out from Manila on June 21st stated that cholera was spreading in the islands. The total number of deaths up to June 21st were 1197 in Manila and 5098 in the provinces, while later reports say that nearly 100 men of the United States Army have succumbed to the disease. The United States Military Medical Department of the Philippines fully recognises the gravity of the situation and is taking energetic measures to stamp out the disease.

Annual Meeting of the American Medical Association.

The annual meeting of the American Medical Association, which took place at Saratoga Springs on June 10th, 11th, and 12th, was on the whole a success. Dr. John Allan Wyeth of New York made an efficient president and delivered a practical address. The meeting was the first held under the new scheme of reorganisation, the House of Delegates being in charge of the business not directly medical or scientific, thus relieving the pressure of work on the general sessions. The attendance was not nearly so large as had been expected, only about 1500 members being present. It is believed that next year, when the Committee on Revision of Code of Ethics has proceeded to work, complete harmony will be established between the New York State Medical Society and the National Medical Association.

Hospitals for Contagious Diseases in New York City.

The inadequacy of the facilities for dealing with contagious diseases in New York city has long been recognised, and many scandals have occurred during the prevalence of small-pox within the past two years owing to the insufficiency of such means. The condition of affairs in this respect in the boroughs is far worse than in New York itself, for while the city has a contagious hospital of a kind the boroughs provide no means whatever for dealing with patients who need to be segregated. The board of health recently applied for an appropriation of $1,025,000 (£205,000) to initiate the necessary reforms, but the board of aldermen was of opinion that such an amount was excessive and voted $500,000 (£100,000) for the purpose—a sum on the face of it wholly inadequate. Not only is the North Brother Island Contagion Hospital much too small, badly built, and in every way ill-suited to the requirements of a city of the size of New York, but there is a corresponding lack of proper means for the conveyance of patients to the isolation hospital. The president of the board of health, referring to the situation, says: "The department is not able to care for all the cases of scarlet fever, diphtheria, and measles as it should properly do." It is also admitted that the hospital plants in Manhattan and in the borough of the Bronx have for many years been in need of additions and alterations.

Social Purity in the Army.

Surgeon-General Sternberg reported some time since that the Board of Health of Manila had instituted measures for the control of the spread of venereal diseases by infected women of the town by segregating them in certain parts of the city and by a careful system of medical supervision of prostitutes. Thereupon the President caused an official order to be issued by the Secretary of War directing the attention of officers and enlisted men in the army, especially of those serving in the tropics, to the following facts. The only really efficient way in which to control diseases due to immorality is to diminish the vice which is the cause of these diseases. It is the duty of regimental and particularly of company officers to try, by precept and example, to point out to the men under their control, and

particularly to the younger men, the inevitable misery and disaster which follow upon intemperance and upon moral uncleanliness and vicious living. The officers should, of course, remember always that the effect of what they say must largely depend upon the lives which they themselves lead. It is in the highest degree necessary that each officer should be an example to his men in the way of temperate and cleanly living. He should point out, using the utmost tact, discretion, and good sense, to the men that venereal disease is almost sure to follow licentious living; that it is never a trivial affair; and that it is criminal folly to believe that sexual indulgence is necessary to health. Every effort should be made to promote throughout the army a cleanly and moral tone, in word no less than in deed. As a nation we feel keen pride in the valour, discipline, and steadfast endurance of our soldiers, and hand-in-hand with these qualities must go the virtues of self-restraint, self-respect, and self-control.

July 1st.

Obituary.

ALEXANDER E. MARSDEN, M.D. ST. AND., F.R.C.S. EDIN.

THE death of Dr. Alexander E. Marsden, chairman of the general committee of the Cancer Hospital, Brompton, London, S.W., took place on Wednesday, July 2nd. He was born in 1832 and was the son of William Marsden, the founder of the Royal Free and Cancer Hospitals. In 1854 he entered the army as a staff assistant surgeon, served at the General Hospital, Scutari, for three months with Miss Nightingale, then in the trenches before Sebastopol with the 38th regiment, and later as surgeon to the ambulance corps. He was one of the first to enter the city of Sebastopol. For more than 50 years he worked in the interests of the Royal Free and Cancer Hospitals and greatly contributed to their success, particularly of the latter institution. He long occupied the position of consulting surgeon to these institutions and was also one of the trustees and member of the committees of each. At the Royal Free Hospital he also occupied the position of curator of the museum and for some time was general medical superintendent. At the Cancer Hospital he likewise acted in this capacity, besides devoting a large amount of his time to the management and general welfare of the charity. In 1898 he was elected Master of the Worshipful Company of Cordwainers.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Nawrocki, professor of physiology in Warsaw, aged 64 years.—Dr. Eduard Schider, a well-known physician of Gastein.—Dr. Bizarelli, senator of the Drôme.—Dr. Dheilly, formerly professor of medical pathology in the Amiens Medical School.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination the following candidates have passed in the subjects indicated:—

PART I.

Biology.—L. W. Bradshaw, Leeds.
Chemistry.—F. M. Cunningham, Royal Free Hospital; C. A. Mortlock-Brown, University College; and C. E. Pring, Royal Free Hospital.
Materia Medica and Pharmacy.—H. F. Briggs, University of Michigan; J. M. Burke, Cork and Middlesex Hospital; W. H. A. Elliott, Leeds; and A. R. McEnnery, St. Mary's Hospital.

PART II.

Anatomy.—H. R. R. Bayley, Charing Cross Hospital; E. H. G. Duncan, St. Bartholomew's Hospital; W. H. A. Elliott, Leeds; W. F. H. Ives, Charing Cross Hospital; G. B. Messenger, Westminster Hospital; N. H. Oliver, Guy's Hospital; E. D. Richardson, St. Mary's Hospital; G. Rollason, Birmingham; C. A. Sampson, Charing Cross Hospital; and I. T. Walker, St. Thomas's Hospital.
Physiology.—H. R. R. Bayley, Charing Cross Hospital; E. H. G. Duncan, St. Bartholomew's Hospital; W. H. A. Elliott and A. G. Gamble, Leeds; G. Heathcote, Manchester; W. S. Hughes and W. F. H. Ives, Charing Cross Hospital; H. M. Langdale, Guy's Hospital; E. Moir, Manchester; N. H. Oliver, Guy's Hospital; E. D. Richardson, St. Mary's Hospital; G. Rollason, Birmingham; C. A. Sampson, Charing Cross Hospital; I. T. Walker, St. Thomas's Hospital; and R. M. Wingent, Guy's Hospital.

UNIVERSITY OF BIRMINGHAM.—The following is a list of successful candidates in the Faculty of Medicine:—

I. *Degree of Doctor of Medicine.*—Henry William Langley Browne, David Charles Lloyd Owen, Henry Prince Motteram, John Orton Orton, and George Arthur Wilkes.
II. *Degrees of Bachelor of Medicine and Bachelor of Surgery.*—(*a*) Associates: William Edward Bennett, William John Cant, and Joseph George Emanuel. (*b*) Past students of the Birmingham Medical School: John Francis Atkins, Walter Chapman, William McEntire Clendinnen, John Augustus Noel Longley, Cyril Reginald Lunn, Robert Arthur Lyster, James Ronald Polson, and Horace Ebbage Utting.
III. *Fourth Examination for the degrees of M.B., Ch.B.*—Cuthbert Keay Gettings and Robert Beatson Dennis Hird (Scholarship).
IV. *Third Examination for the degrees of M.B., Ch.B.*—Class I.: William Cook, Cuthbert Keay Gettings, and Alfred Ernest Remmett Weaver. Class II.: William George Aviss, Fred Thomas Hollway Davies, Robert Beatson Dennis Hird, Leonard George Joseph Mackey, Fred Newton Walsh, Herbert Henry Warren, and Edmund Wilkinson.
V. *Second Examination for the Degrees of M.B., Ch.B.*—Class I.: Joseph Bernard Dawson (Scholarship), Francis Reginald D'Alton Glissan and Norman John Lancelot Rollason. Class II.: Robert Wallace Aitken, Reginald Hudson Astbury, Edward Lancelot Bunting, Helen Gertrude Greener, William Claude Horton, William Cuthbert Houghton, Henry Percy Pickerill, Thomas Holmes Ravenhill, and Claude Edward Tangye.
VI. *First Examination for the Degrees of M.B., Ch.B.*—Class I.: Mary Clarke (Scholarship). Class II.: Arthur Cecil Hincks, Claude Johnson, Arthur Addison Sanders, Arthur John Smith, and Francis Brett Young.
VII. *Degree of Master of Dental Surgery.*—Harold Round.
VIII. *Degree of B.Sc. in Public Health.*—Associate: Sidney Barwise.
IX. *Diploma of Public Health.*—Part I. (only): Ernest Jonathan Beards.

UNIVERSITY OF DUBLIN: TRINITY COLLEGE.—At examinations held at the School of Physic, Trinity term, the following candidates were successful:—

Previous Medical Examination: Anatomy and Institutes of Medicine.—William J. Powell, Montgomery Du B. Ferguson, George Mac G. Millar, John A. Pringle, Howard English, Wilfrid T. Thunder, Benjamin Johnson, Henry E. M'Cready, George E. Nesbitt, Thomas Creaser, Carlile Kelly, Joseph E. Houstin, Charles R. Coppinger, Robert Magill, Vincent Mayne, Francis J. S. Crean, Charles R. Morris, John W. Burns, Thomas Wilson, Cecil Boyd, Geoffrey Friel, and William Hassard.
Final Examination: Section B.—Thomas H. Gibbon, William R. P. M'Neight, Seaton S. Pringle, Alexander H. Marks, John H. Torney, Robert J. Fleming, Anthony H. Corley, Reginald H. Lee, Thomas W. Crowley, Charles A. Stone, David C. Pearson, and Maurice Fitz Gibbon.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the primary part of the Fellowship examination:—G. P. A. Bracken, J. J. Connolly, A. N. Crawford, C. A. Cusack, R. W. D. Leslie, T. C. C. Leslie, W. F. B. Loughnan, J. C. Murphy, J. Pratt, and J. S. Sheild.

FOREIGN UNIVERSITY INTELLIGENCE.—*Barcelona:* Dr. Vallejo of Lobón has been appointed to the chair of Clinical Medicine in succession to the late Dr. Robert.—*Berlin:* Dr. Leopold Landau, *privat-docent* of Midwifery and Gynæcology, has been promoted to an extraordinary professorship. Dr. Rudolf Jürgens, who already enjoys the title of Professor, has been recognised as *privat-docent* of Pathological Anatomy. Dr. Magnus-Levy has been recognised as *privat-docent* of Medicine.—*Bordeaux:* Dr. Bergonié has been appointed to the chair of Biological Physics and Medical Electricity.—*Cracow:* Dr. Emil Godlewski has been recognised as *privat-docent* of Descriptive Anatomy and Embryology.—*Freiburg:* Dr. Alfred Hoche of Strasburg has been appointed to the chair of Psychiatry in succession to Dr. Emminghaus.—*Halle.* Dr. Karl Heilbronner, *privat-docent* of Psychiatry, has been promoted to an extraordinary professorship.—*Heidelberg:* Professor von Rosthorn of Prague has been offered the chair of Midwifery which Dr. Kehrer is about to resign.—*Kiel:* Dr. Karl von Korff has been recognised as *privat-docent* of Anatomy.—*Königsberg:* Dr. Victor Hinsberg of Breslau has been recognised as *privat-docent* of Otology and Laryngology.—*Lausanne:* Dr. S. Rabow, Professor of Pharmacology, is retiring. Dr. Roud has been appointed Extraordinary Professor of Anatomy.—*Lemberg:* Dr. P. Kuczera has been recognised as *privat-docent* of Pathological Anatomy.

MR. CHAMBERLAIN'S ACCIDENT.—Mr. Chamberlain left Charing Cross Hospital on July 9th. On July 7th he passed a good night and during July 8th had some refreshing sleep. He has had no rise of temperature, but it was considered as well that he should remain in the hospital for a time. The bone in one place was laid bare, the pericranium being stripped up for a short distance, but the hæmorrhage was easily controlled on the wound being dressed by the house surgeon on duty and the resident medical officer.

LITERARY INTELLIGENCE.—Messrs. Duckworth and Co. will publish immediately a book on "European Fungus-Flora" by George Massee, F.L.S., principal assistant at the Royal Herbarium, Kew, author of "A Text-book of Plant Diseases," whose observations extend over a period of 25 years. The work will be a synopsis of the European Agaricaceæ, giving the specific characteristics of 2750 European species, of which 1553 are British. Edible and poisonous species will be duly notified and also such as are known to be injurious to cultivated plants. But keeping in view the fact that the essential features of many Agarics can only be observed satisfactorily in the field the book will be kept within convenient limits.

A COMPLAINT AGAINST A PUBLIC VACCINATOR.—At the meeting of the Kingsbridge (Devon) board of guardians held on June 28th a communication was received from the Local Government Board stating that one of the public vaccinators had altered the ages of the children entered as vaccinated in the vaccination register and the Local Government Board asked for the observations of the guardians before considering the matter. The public vaccinator's explanation was that he had not kept the register himself and that the ages given at vaccination and inspection must have been different. He added that he was aware he was responsible for errors in the vaccination register and was quite willing for the cases mentioned to be deducted. The guardians decided to forward his letter to the Local Government Board.

ROYAL INSTITUTE OF PUBLIC HEALTH.—The annual congress of the Royal Institute of Public Health will be held in Exeter from August 20th to 27th under the presidency of the Earl of Iddesleigh. The work of the congress will be arranged in five sections as follows. Section 1. Preventive Medicine and Vital Statistics: President, Sir Charles Cameron, medical officer of health of Dublin; honorary secretaries, Mr. O. Heaton, medical officer of health of Exmouth and of the Port of Exeter, and Dr. Killick Millard, medical officer of health of Leicester. Section 2. Chemistry, Climatology, and Bacteriology: President, Professor Sims Woodhead; honorary secretaries, Dr. Ransom Pickard of Exeter and Mr. F. M. Williams, medical officer of health of Plymouth. Section 3. Engineering and Architecture: President, Mr. E. G. Mawbey, borough engineer of Leicester; honorary secretaries, Mr. T. Moulding of Exeter and Mr. W. Ingham of Torquay. Section 4. Municipal and Parliamentary Hygiene: President, Mr. J. A. Bellamy, mayor of Plymouth; honorary secretaries, Dr. F. G. Bushnell of Plymouth and Mr. Mark Farrant, jun., medical officer of health of the St. Thomas's Rural District Council. Section 5. Veterinary and Farm Hygiene: President, Mr. W. H. Bloye, F.R.C.V.S., of Plymouth; honorary secretaries, Mr. J. P. Heath, M.R.C.V.S., of Exeter, and Mr. M. Penhale, M.R.C.V.S., of Barnstaple. The proceedings will commence at 1 P.M. on August 20th with a reception by the mayor of Exeter at the Guildhall; at 8 P.M. the exhibition at the Drill-hall and Barnfield Hall will be opened by the Earl of Iddesleigh, President of the congress. On the 21st addresses will be delivered at the Royal Albert Memorial College by the President of Section 1 at 10.30 A.M. and by the President of Section 3 at 2.30 P.M.; at 7.30 P.M. the Earl of Iddesleigh will deliver an address at the Victoria Hall. On the 22nd addresses will be delivered at the Royal Albert Memorial College by the President of Section 2 at 10.30 A.M. and by the President of Section 5 at 2.30 P.M.; from 8 to 11 P.M. there will be a conversazione at the same place. On the 23rd an address will be delivered at the Royal Albert Memorial College by the President of Section 4. The annual dinner will take place on the 25th at 7.30 P.M. On the 26th Dr. W. R. Smith, who is President of the institute, will deliver a popular lecture, and the closing meeting will be held on the 27th. Arrangements will be made for visits to Torquay during the annual Royal Regatta and for daily visits to the new septic tank sewage installations and also to the new extensions of the city water-supply. A subscription of one guinea entitles the subscriber to all the local advantages of the congress. Over 450 delegates to the congress have up to the present date been appointed by various town councils, county councils, and other local authorities. It is stated that the principal railway companies have agreed to issue return tickets at a fare and a quarter to persons attending the congress on production of a certificate which will be supplied by the joint honorary secretaries in Exeter, Mr. Edward J. Domville, Mr. Edwin Herrin, and Dr. Ransom Pickard.

DONATIONS AND BEQUESTS.—By the will of Mr. Charles Barraclough of Rochdale £1000 are bequeathed to the Rochdale Infirmary, £1000 to the Bradford Yorkshire Infirmary, £1000 to the Royal Albert Asylum for Idiots, Lunatics, and Imbeciles at Lancaster, and £100 to the Rochdale and District Society for Visiting and Instructing the Blind.—Under the will of Miss Matilda Emily Baddams of Southend £2000 are left to the Victoria Hospital, Southend; £2000 to the Children's Hospital, Shadwell; £2000 to the London Hospital, Whitechapel-road; £1000 to the Consumption Hospital, Brompton; £1000 to the Cancer Hospital, Brompton; £1000 to St. Mary's Hospital, Paddington; and £1000 to the Poplar Hospital, East India Dock-road. The gifts are for the founding of beds, to be called the "Matilda Emily Baddams" and "Froome" beds.—Colonel the Right Hon. William Brownlow Forde, P.C., of Seaforde, Clough, formerly M.P. for county Down, who died on Feb. 8th, by his will bequeathed £100 to the Stewart Institution for Idiots and Imbeciles at Palmerston and £1000 in trust for the County Down Infirmary, Downpatrick.—Miss Swasbrook, of Acocks Green, Worcester, by her will bequeathed £100 to the Children's Hospital and the Ear and Throat Institution.

BOARDS OF GUARDIANS AND VACCINATION.—At the meeting of the St. Germans (Cornwall) board of guardians, held on July 3rd, a communication was read from the Local Government Board asking for observations on a petition from the public vaccinators. The petition, which was alluded to in THE LANCET of July 5th, p. 24, stated that in consequence of the vaccination registers being required at the workhouse on five occasions this year the public vaccinators were unable to comply with the requirements of the Vaccination Act. One of the guardians said that the vaccination fees for 1901 amounted to £30, whereas this year they already amounted to £160, and he considered this a sufficient reason for requiring the register. A long discussion followed, and eventually the clerk was instructed to inquire of the Local Government Board (1) whether private patients were allowed to pay public vaccinators if they were so disposed; (2) whether the public vaccinators were justified in refusing to take fees for vaccination from patients; and (3) whether able-bodied persons desiring revaccination should not be required to attend at the surgery instead of the public vaccinators going to their homes.

GRANT MEDICAL COLLEGE.—The annual report of this college for 1901-2 states that at the beginning of the period under notice there were 38 pupils at the college, 28 of whom belonged to Bombay Presidency and 10 to Bengal. The total number of military medical pupils on the register at the present time is 46.—Dr. N. F. Surveyor has been steadily carrying on his research work in pharmacology at the Framji Dinshaw Petit Laboratory. At first he made a few experiments with sodium saccharate with a view to determine its maximum dose. He has now commenced a series of metabolism experiments and has also been carrying on some observations on the excretion of urobilin in urine of phthisical and septic cases and also on leucocytosis in diseased conditions with Dr. R. Row. Dr. R. Row is continuing his work of original investigations on typhoid fever in the same laboratory. The difficulties arising from want of space for anatomical teachings have been to a certain extent overcome by the erection of a temporary shed for dissection in the College Compound and Government has sanctioned the plans and estimates amounting to Rs.78,671 for new anatomical buildings which are now being erected. The report also states that the donation of H. H. the Gaikwar of Rs.5000 has been thankfully accepted by Government and as a temporary arrangement in this connexion a lectureship on Diseases of the Ear and Throat has been established for five years.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Housing of the Working Classes.

THE Select Committee of the House of Commons on the repayment of loans by local authorities has issued its report and on the subject of schemes for the housing of the working classes it recommends that the maximum period for the repayment of loans should be extended to 80 years. The following two paragraphs appear in the report, viz.:—

60. It has not appeared to the committee to be within the terms of their reference to express an opinion upon the question whether the supply of such houses by private enterprise or benevolence has been checked in any case by municipal competition, either actual or anticipated. They consider that the sole question with which they are called upon to deal is whether local authorities are unduly hampered by the periods allowed for repayment of loans for the construction of dwelling houses in cases in which such construction is forced upon them either by the legal necessity for re-housing persons displaced by their demolition works or by the proved inadequacy of the supply of houses for the working classes in their district.

61. The reluctance of ratepayers to allow any part of the cost of works to be thrown upon the rates appears to be particularly strong in the case of housing works which, if open-market rents are not enforced, confer special advantages on certain individuals. This feeling, so far as it exists with regard to the re-housing of displaced persons, is probably founded upon a misapprehension both as to the moral and sanitary benefits which all existing ratepayers derive from the demolition of unhealthy dwellings and as to the real annual cost which is thrown upon the rates by the actual re-housing part of municipal schemes.

The Midwives Bill.

The passage of the Midwives Bill during the present session of Parliament may now be regarded as absolutely certain. No changes of substance were made in it in the House of Lords either in Committee of the whole House or before the Standing Committee and there is no prospect of conflict between the two branches of the Legislature. As a matter of form the amendments made in the House of Lords will be presented to the House of Commons for its approval. Only one division was taken during the Committee stage in the House of Lords and that was upon the section providing a penalty for women who after 1910 habitually and for gain attend confinements without being certified under the Act. The Lord Chancellor raised the old question of the friendly neighbour in the rural parishes and spoke in very much the same sense as Mr. Jesse Collings did in the House of Commons. Though the Duke of Devonshire, President of the Privy Council, made no speech he voted with the Lord Chancellor in the lobby against the section. The position of the General Medical Council with regard to the approval of the rules framed by the Central Midwives Board has not been substantially altered. As Clause 3 now stands the rules will be valid only if approved by the Privy Council, and the Privy Council before approving them must take into consideration any representations made by the General Medical Council. The words saying that the rules must be submitted to the General Medical Council have disappeared from the clause, but it is obvious that the Council must have the rules before it if it is to make any representations with regard to them.

Long Hours in the Fruit-preserving Trade.

This subject was discussed in the House of Lords on Tuesday, July 8th. It was introduced by Earl BEAUCHAMP who contended that if jam-makers used thoroughly fresh and sound fruit and took proper precautions for its handling they would not require to keep their employés at work for excessive hours. For the Home Office Lord Belper explained that new regulations for this trade have been issued under the Factory and Workshops Act of 1901 and he asked for them a fair trial.

HOUSE OF COMMONS.

WEDNESDAY, JULY 2ND.

Hospital Provision for Belfast.

Mr. WOOD asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been drawn to the application by the Belfast corporation for a loan for the erection of a small-pox hospital at Purdysburn, county Down, and whether, having regard to the practice in England, an inquiry would be held at which the ratepayers would be heard and the rules of the Local Government Board in England as to the striking distance of small-pox contagion be adopted.—Mr. WYNDHAM replied: No application has been received for a loan for the erection of a small-pox hospital at Purdysburn; consequently no inquiry will be held in the matter. In February last an inquiry was held in respect of an application by the Belfast corporation for a loan of £50,000 for the erection of a permanent infectious diseases hospital on the lands of Purdysburn acquired by the corporation for hospital purposes. At the inquiry all persons interested had an opportunity of being heard and no objections to the proposal were made. This loan was sanctioned in May. The question of providing a temporary small-pox hospital was not raised when the inquiry into the application for the loan was held.

Plague at Hong-Kong.

Mr. WEIR asked the Secretary of State for the Colonies, in view of the prevalence of plague at Hong-Kong, would he consider the expediency of calling for a report as to whether it was practicable to remove some of the slum property in the Chinese quarter of the city with a view to secure improved drainage and sufficient ventilation; and seeing that, besides 10,000 foreigners, the city contains upwards of 280,000 Chinese, the majority of whom were located in insanitary dwellings, would he consider the advisability of increasing the sanitary staff at the disposal of the Government.—Mr. CHAMBERLAIN replied: I must await the full reports of the medical and sanitary experts. Professor Simpson and Mr. Osbert Chadwick, who have specially visited Hong-Kong in connexion with the plague.—Mr. WEIR asked when the reports were likely to be forthcoming.—Mr. CHAMBERLAIN replied: I cannot give any limit for an inquiry of this kind. I hope the experts will take all the time they consider necessary.

THURSDAY, JULY 3RD.

Veterinary Surgeons and the War Office.

Captain NORTON asked the Secretary of State for War whether it had been brought to his notice that the Council of the Royal College of Veterinary Surgeons had determined that unless certain concessions were made in the new warrant for the Army Veterinary Department to advise their graduates not to enter the army.—Mr. BRODRICK replied that he had received a letter to this effect from the Royal College and the President had been informed that the questions involved were under consideration, but he could not promise that the concessions demanded could all be made.—Captain NORTON said that the principal grievance was the question of army rank and asked whether that would be carefully considered.—Mr. BRODRICK replied that consideration had been given to this question before, but it had not been found practicable to give the concession desired.

MONDAY, JULY 7TH.

Scottish Poor-law Medical Officers.

Mr. CATHCART WASON asked the Lord Advocate if his attention had been directed to the fact that in the highlands and islands of Scotland Poor-law medical officers had repeatedly brought under the attention of the Government the circumstances of their position as compared with medical officers holding similar appointments in England and Ireland; and if the Government would propose any legislation to improve their position.—The LORD ADVOCATE replied: The Secretary for Scotland is not at present prepared to legislate in the direction suggested by the honourable Member.

Drink for Habitual Drunkards in Ireland.

Mr. M'GOVERN asked the Chief Secretary to the Lord Lieutenant of Ireland whether, having regard to the fact that licensed persons who supplied habitual drunkards with drink were rarely prosecuted in Ireland, would he direct the attention of the Royal Irish Constabulary to the Licensing Act with a view to the provisions being put into operation?—Mr. WYNDHAM replied: During the past year 215 persons were prosecuted throughout Ireland for breaches of the law in this respect. Of these 139 were convicted. The attention of the constabulary is about to be directed specially in the matter.

TUESDAY, JULY 8TH.

Army Medical Establishments Vote.

Sir JOHN BATTY TUKE asked the First Lord of the Treasury when he proposed to give the House an opportunity of discussing the vote for medical establishments in the army.—Mr. BALFOUR replied that when War Office votes were taken the vote for the salary of the Secretary of State for War must be taken first and he was afraid that he could give no promise of a special date for the vote for medical establishments.

Ear Troubles in the Hanwell Schools.

Sir WALTER FOSTER asked the President of the Local Government Board whether his attention had been called to a medical report issued in February, 1902, in which it was shown that 520 out of 1000 children in the barrack schools of Hanwell could not pass the whisper test for hearing; that 335 were, or had been, the subjects of discharge from one or both ears; that 88 of them were suffering from chronic suppuration; and that 434 children out of the 1000 examined had adenoids; and what steps had been taken to improve the condition of these children.—Mr. WALTER LONG replied: I have seen the report referred to, from which it appears that the results of the examination of 1000 children at the Hanwell schools were as stated in the question. The examination was made by Mr. Cheatle by request of the managers of the schools. I am informed that the children suffering from adenoids are now receiving surgical treatment and that a committee of the managers, after consultation with Mr. Cheatle, are considering the best means of dealing with cases of diseases of the ears. It may be mentioned that a similar examination which was made by Dr. Willcocks in 1898 revealed a large proportion of adenoid disease. As a result of that investigation 107 children from the schools were successfully treated for adenoids at St. Bartholomew's Hospital between October, 1898, and January, 1901. In his report Dr. Willcocks stated that the school life and the surroundings of the children could not be held responsible in any sense for adenoid troubles, the disease being prevalent among children in all classes of society. A similar opinion has been expressed by Mr. Cheatle and other medical men interested in the matter.

MIDWIVES BILL.

DEBATES IN THE HOUSE OF LORDS.

FULL REPORT.

The Committee stage of the Midwives Bill was taken in the House of Lords on Friday, July 4th.

The Duke of NORTHUMBERLAND moved to strike out Sections 1 and 2 of Clause 1—namely: "(1) From and after the first day of January, 1910, no woman shall habitually and for gain attend women in childbirth, or shall, after the first day of January, 1905, be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition, or description implying that she is certified under this Act, or is a person specially qualified to practise midwifery, or is recognised by law as a midwife, unless she be certified under this Act. (2) Any woman who, after the first day of January, 1905, not being certified under this Act, shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid, shall be liable on summary conviction to a fine not exceeding £5" and to insert in their places the following sections—viz.: "(1) From and after the first day of January, 1905, any woman who not being

certified under this Act shall take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition, or description implying that she is certified under this Act or is a person specially qualified to practise midwifery, or is recognised by law as a midwife, shall be liable on summary conviction to a fine not exceeding £5; (2) from and after the first day of January, 1910, no woman shall habitually and for gain attend women in childbirth unless she be certified under this Act; any woman so acting without being certified under this Act shall be liable on summary conviction to a fine not exceeding £10, provided this section shall not apply to legally qualified medical practitioners or to anyone called in to render assistance in a case of emergency."

The Earl of PORTSMOUTH said that he did not know much about the general merits of the Bill but he thought the particular provision inserted in the House of Commons late in the proceedings there very objectionable. The fact was that in a great many country districts it would be impossible for poor people to get the assistance of what might be called a trained nurse. In some parishes no doubt the proprietors subscribed for the services of one, but that was not the case in all parishes and he was afraid that great hardship would be inflicted if the Bill were passed in its present shape. He could not help thinking that the words to which he took exception were inserted not for the benefit of the working-classes but simply for the benefit of the country doctors. The practice of the country doctor was not a very lucrative one at any time and no doubt much of it consisted in attending the confinements of poor people. He did not know that the country doctor was always particularly expert and efficacious, but he did know that in many cases poor people preferred the assistance of a midwife to that of the doctor and he thought it would be very hard if they were obliged to go to the latter. Altogether he thought this new provision a mistake and, indeed, altogether beyond the purpose of this legislation. He would ask, too, whether it was proposed to put the charge for a trained nurse upon the rates. If it was not proposed then there must be many parishes without a trained nurse. He hoped their lordships would see their way to strike out the words which seemed to him mischievous and exceedingly vexatious.

Lord CLONBROCK said that in Ireland there was a trained nurse in connexion with each dispensary district and he did not see why the same state of things should not exist in England.

The LORD CHANCELLOR said that if there was in England the same system as in Ireland he should have no objection to this provision but unfortunately there was no such system. Indeed, if they had the Irish system in England he imagined that the need for this legislation would be got rid of altogether. The question their lordships had to deal with was, after all, very much a question of fact—whether or not in the rural districts of England this provision would affect many of the poorer classes in a very harsh manner and cause a great deal of suffering. The evidence which had been put before him went to show that it would and that the mischief would go on increasing. It appeared to him that the matter had not been sufficiently investigated in order to ascertain the effect of the provision. He should have thought that a great many of their lordships themselves would know what was the condition of rural life in England. He rather thought that the noble duke himself (the Duke of Northumberland) must have some knowledge upon the subject, and he should have deferred very much to his knowledge and experience. This was a matter which had not been properly threshed out in the other House. As the Bill was originally framed it said that no one should assume the name and character of a midwife who had not got a certificate. No one would object to that. It passed through the Grand Committee and still was without this compulsory clause. Then at the last moment this clause was inserted penalising a whole class of persons without the least inquiry. This alteration changed the whole character of the Bill and it seemed to him therefore that it was a matter which should be considered. Could anybody suppose that there would be a rush for education and qualification on the part of midwives without any further inducement than was offered by this Bill? He thought that the whole question should be inquired into. It was said that the provision would not come into operation for eight years. In that event there would be no suffering through inquiry. It could not be said that it was an urgent question if they were to wait eight years for the operation of the provision. Before committing themselves he thought their lordships would do well to have the facts of the case clearly ascertained.

The Duke of NORTHUMBERLAND said that there were one or two fallacies which he should like to point out. Over and over again the expression "trained nurse" had been used. It was not proposed to insist upon a midwife being a "trained nurse." The expression "trained nurse" included a very much more complete education than was contemplated under this Bill. There was no question of any charge upon the rates. As for the provision to which so much exception had been taken, he must confess that the more he considered it the more was he convinced of its being essential for the proper working of the Bill. They had been asked, what did they know about the necessity for such legislation? That was an argument against the whole Bill. This Bill was no new thing; it had been brought on year after year. It was held by those who supported it that there was a great necessity for it, that there was a great deal of harm done in the country by untrained midwives, and if that were to be stopped there must be a penalty of some kind. The penalty proposed was only for the women who habitually and for gain attended women in childbirth—that was to say, did something for which she was not certified. Whether there was any hardship in rural districts would depend entirely upon the rules laid down by the Privy Council. He quite admitted that they were placing in the hands of the Privy Council very large responsibilities. It would be for the Privy Council to decide the rules and regulations under which women would be certified to act as midwives. Though he was afraid he could not assure the Lord Chancellor that his experience in these matters was very profound, yet he thought most of their lordships with experience of the rural districts did not see any cause to apprehend any serious difficulty in obtaining the services of midwives who would be certified under this Act. He saw an enormous difficulty in rural districts in always obtaining the services of a certified midwife, but then that had been carefully guarded in the Bill. There must be many cases in which the neighbour came in, not without receiving remuneration, and there was nothing in the Bill to prevent the neighbour coming in and giving that assistance which was of so much value. In all the circumstances he could not believe that any real hardship would be caused by the Bill. Another point to bear in mind was that all the existing midwives who gave evidence of respectability and of *bona-fide* practice would be certified as matter of course. All that was proposed was at the end of eight years any woman who wished to enter the profession should qualify herself by proper training.

Earl SPENCER said that he did not quite understand his noble friend (Lord Portsmouth) as to whether he meant to move the omission of the words to which he had called attention. Nor did he quite understand what the Lord Chancellor intended to do; his lordship spoke, as it seemed to him, against the whole clause. As far as he (Lord Spencer) could see this clause contained almost the pith and essence of the Bill and if it were omitted it would be better to leave the Bill alone altogether. He had had some very considerable doubt about the policy of this Bill and he had made it his business to study the question with some care, and he differed entirely from the Lord Chancellor in his view as to their having been no inquiry. There was a full report by a Committee of the House of Commons showing that there had been most exhaustive inquiry, while the Bill itself appeared to belong to the class of measures known as hardy annuals. It was only after 12 years or more of constant work that the Bill had been brought to a pitch which had enabled it to pass in the other House. If the Bill prevented women in small villages from calling in their neighbour who might have great experience in the birth of children it would no doubt be a very hard thing, but it did nothing of the sort. All the Bill did was to prevent a woman who gave this aid from advertising herself as a midwife. From the evidence he found that there were in England and Wales 4500 women who perished annually in childbirth, or one woman to every 200 confinements. In the hospitals where there were trained nurses the mortality was only one in 600. That meant that if outside these hospitals there were the same trained assistance as inside there would be a saving of 3000 lives per annum. Surely that was a matter that ought to be weighed and considered and dealt with by the Legislature; it had convinced him of the absolute necessity of dealing with the evil in some way.

The LORD CHANCELLOR said that he had not said one word against the superiority of trained nurses or about the absence of medical attendance. He had not the smallest doubt that it would be very much better if every poor woman were attended by a trained surgeon. His point was, Were they quite sure that in their effort to do what he believed a very good thing they might not be doing more harm than good and that by preventing what the poor had they might prevent them from having anything at all? He repeated that this provision had been inserted at the last moment. The noble lord had spoken of the Bill as a hardy annual, but did he suggest that this penal clause had ever before been in the Bill?

The Earl of CORK said that anyone who had lived in the country and knew how children were brought into the world knew that very often mothers had to depend entirely upon the help of their neighbours, and he believed that on the whole the children were brought into the world in a good and healthy condition. He insisted that the clause in its present shape would deter neighbours from giving assistance.

Lord BALFOUR of BURLEIGH said that in his opinion much of the discussion that had taken place was beside the point. The question their lordships had to decide was whether this was a wise and satisfactory provision to have in the Bill. If he were to go into the history of the matter he could point out that the provision was not a new one before Parliament. It was in the Bill of 1900. What was proposed was that a woman should not habitually and for gain attend women in childbirth without being certified, the operation of the provision being postponed for a period of eight years. Now there could be no doubt that in this sort of legislation they must take care of anything which by any stretch of language could be called a vested interest. If a woman was now actually and in good faith in the prosecution of this profession then he thought it would be unfair arbitrarily to come down and interfere with her. Under the Bill she was entitled to be recognised provided she was of good character. On the other hand, it must be admitted that there was a great evil in connexion with this matter and that many of those who called themselves midwives were utterly regardless of the lives of those whom they attended. It had been proved over and over again at coroners' inquests that those who called themselves midwives and habitually and for gain took up the profession did not sufficiently regard their responsibilities and it was necessary that some sort of check should be put upon them. What was hoped was that by this form of training there would be greater skill, which was obviously desirable, and at the same time by postponing the condition for eight years there would be no hardship to those who were likely to enter the calling in the future. He would not go so far as to say that if this sub-section were omitted the whole value of the Bill would be lost; he believed that it would still be a very valuable Bill, but he believed that it would be a less valuable Bill than as it stood at present and for this reason. It was all very well to say that a woman who was a midwife should be trained, but unless there was some practical supervision, some handicap upon those who were not trained, there would be no great zeal in taking the certificate and proving competence for the work. He did not believe that the provision would cause any real hardship and he hoped their lordships would accept it.

The Earl of PORTSMOUTH said that he felt the provision had been inserted to further professional interests. It savoured too much of grandmotherly interference with the working classes which he was sure was not acceptable to them.

The two sections standing in the Bill were then struck out and the first section proposed by the Duke of Northumberland was inserted without a division.

The Duke of NORTHUMBERLAND then formally moved the insertion of the second section he had proposed.

Lord TWEEDMOUTH said that if Parliament made this declaration in favour of certification and did not provide a penalty the whole thing would be a farce. There must be a provision for enforcing the views of Parliament.

A division was then taken when the new section was adopted by 66 votes against 19.

The peers who voted against the section were the Lord Chancellor, the Duke of Devonshire, Earl Carrington, the Earl of Morley, the Earl of Portsmouth, Viscount Sidmouth, Lord Belper, the Earl of Cork, Lord Colchester, Lord Hatherton, Lord Hawkesbury, Lord Heneage, Lord Howard of Glossop, Lord Lamington, Lord Leigh, Lord Monkswell, Lord Mowbray, Lord Thring, and Lord Wimborne.

Among the 66 peers who voted for the section were the Duke of

Grafton, the Duke of Northumberland, the Duke of Portland, the Duke of Rutland, the Marquis of Lansdowne, the Marquis of Ripon, the Earl of Camperdown, the Earl of Derby, the Earl of Jersey, Earl Spencer, the Marquis of Londonderry, Viscount Cross, Viscount Knutsford, Viscount Llandaff, the Bishop of Winchester, Lord Balfour of Burleigh, Lord James of Hereford, Lord Reay, the Earl of Rosebery, Lord Sandhurst, Lord Tweedmouth, and Lord Welby.

Lord THRING moved to strike out of Section 5 the reference to the undertaking of cases of abnormality or disease in connexion with parturition and to insert the following as a separate section, viz.:—

"It shall be the duty of a midwife not to undertake without the assistance of a registered medical practitioner any case which she knows, or might with reasonable care have known, to be one of abnormality or disease in connexion with parturition; if she does so she shall be liable to a penalty not exceeding £5 unless she proves to the court that she was unable to procure the attendance of a registered medical practitioner."

The Duke of DEVONSHIRE said that the words to which exception was taken by the noble Lord were inserted at the instance of the Privy Council in order to meet the views of the General Medical Council and he hoped they would be retained in the Bill.

Lord THRING thought the clause most unjust and that it would make the places of these women almost untenable if it were enforced.

The amendment was negatived without a division.

On the motion of the Duke of NORTHUMBERLAND words were inserted in Clause 3 giving a seat on the Central Midwives Board to a representative of the Queen Victoria's Jubilee Institute for Nurses.

Lord WELBY moved an amendment to subject the Central Midwives Board in matters of expenditure to the previous approval of the Privy Council.

The Duke of DEVONSHIRE resisted the amendment, saying that it was unnecessary and that the Privy Council could not efficiently undertake the proposed responsibility.

The amendment was negatived without a division.

Consideration was then given to the provision in Clause 3, that "Rules framed under this section shall be valid only if approved by the Privy Council; and the Privy Council before approving any such rules shall submit them to the General Medical Council and shall take into consideration any representations which that Council may make with respect thereto."

Lord THRING moved to strike out everything after the first "the Privy Council," saying that it was unprecedented to give such an order as this to the Privy Council.

Lord BALFOUR of BURLEIGH said that the General Medical Council had been anxious for more control and he could see no harm in allowing the Privy Council to take the opinion of the General Medical Council. All that was provided for was that the Privy Council before approving the rules should submit them to the General Medical Council and take into consideration any representations it might make, but there was nothing in the clause binding the Privy Council to adopt the views of the General Medical Council. He thought the General Medical Council had sufficient knowledge and experience to entitle it to know what was being done by the Government department before that department made its rules effective. He felt sure that the clause did not ask the Privy Council to do more than it would do in any circumstances.

Earl RUSSELL said that he quite agreed that this was what the Privy Council would probably do in any case, but the provision in the Bill was mandatory and that was quite a different matter.

Lord THRING said that while he did not propose to press his amendment to a division he still thought this a very extraordinary provision to find in an Act of Parliament.

The Earl of CAMPERDOWN took the view that it was not giving the Privy Council the position to which it was entitled to order it to submit the rules to the General Medical Council. He felt confident that the Privy Council would never think of issuing the rules without being assured that they were in conformity with what was right and that with that object it would consult the General Medical Council. The words in the clause, however, suggested that the General Medical Council had too much power in connexion with the Bill, and he was sure their presence there would not increase the popularity of the legislation throughout the country.

Lord BALFOUR of BURLEIGH said that as there appeared to be strong objection to the words as they stood he would suggest that the words "shall submit them to the General Medical Council" be struck out so that the Privy Council should only be required to take into consideration any representations which that body might make.

The Earl of CAMPERDOWN thought that would not help matters much, because if the Privy Council were to take into consideration any representations of the General Medical Council that would imply that the rules should be submitted to the latter body.

The suggestion of Lord Balfour of Burleigh was adopted on the understanding that the matter would be subject to revision when the Bill was considered in the Standing Committee.

The Earl of MAYO moved to insert at the end of the clause these words, viz.:—"Provided always that any woman holding a certificate in midwifery from the Hospital for the Relief of Poor Lying-in Women in Dublin (commonly known as 'the Rotunda Hospital') shall, upon production of such certificate, be admitted to the roll of midwives without any further course of training or examination and shall be entitled to be certified under this Act."

The Duke of NORTHUMBERLAND, opposing the amendment, said that the great duty of the Central Midwives Board would be to see that only properly qualified women were admitted and he could not help thinking that it would be invidious to name any particular institution in the manner proposed.

The amendment was not pressed.

On Clause 4 dealing with fees and expenses,

The Marquis of RIPON protested against the proposed apportionment among county and county borough councils of any deficiency that might occur in the balance of the accounts of the Central Midwives Board. It was bad in principle, he said, and he could not give it his approval.

On the motion of the Duke of NORTHUMBERLAND Clause 5 was made to read: "There shall be a roll of midwives containing (1) the names of those midwives who have been certified under Clause 2 of this Act; (2) the names of all other midwives who have been certified under this Act."

On the motion of Lord WELBY words were inserted in Clause 6 requiring the approval of the Privy Council for the appointment of certain of the officers of the Central Midwives Board.

In Clause 8, dealing with the local supervision of midwives, it is said that it shall be the duty of the local supervising authority to suspend any midwife from practice in accordance with the rules under the Act, if such suspension appears necessary, and on the motion of the Duke of NORTHUMBERLAND it was agreed to add "in order to prevent the spread of infection."

Also on the motion of his lordship it was agreed to insert in Clause 14 these words—viz.: "Any woman thinking herself aggrieved by any decision of the Midwives Board, removing her name from the roll of midwives, may appeal therefrom to the High Court of Justice within three months after the notification of such decision to her, but no further appeal shall be allowed."

This concluded the consideration of the Bill by Committee of the whole House.

On Tuesday, July 8th, the Bill was considered by the Standing Committee of the House of Lords.

On the motion of the Duke of NORTHUMBERLAND it was agreed to alter the date in the first section of Clause 1 to April 1st, 1905, and in the second section to April 1st, 1910.

The Bishop of HEREFORD moved that the second section, which provides a penalty for uncertified practice, come into force on April 1st, 1905. His Lordship pointed out that Clause 2 enabled women now in practice to get certification on production of evidence of good character. Presumably, therefore, every respectable woman would apply to be certified, and women who were not respectable would be free to go on practising until April 1st, 1910, without any restriction.

The Duke of NORTHUMBERLAND said that he was afraid that he could not accept the amendment. It was really a case of endeavouring to meet divergent views and the provision in the clause represented a compromise to which he must adhere. By deferring the operation of the section for eight years the Central Midwives Board and the Privy Council would be able to see how the Act generally worked and to modify their rules in the light of experience or even to propose amending legislation.

Lord BELPER said that he was instructed by the Home Office to oppose the amendment, the view of that department being that it would be well to have this interval of time before the penal provision came into force.

The amendment was rejected without a division.

On the motion of the Duke of NORTHUMBERLAND words were inserted in Clause 3 making certain members of the Central Midwives Board eligible for reappointment.

The words introduced in Committee of the whole House in Clause 14 giving an appeal from the General Midwives Board to the High Court of Justice were struck out of that clause and made a separate clause. When the Earl of CORK suggested that a midwife in some distant part of the country was not likely to be able to afford the cost of an appeal to the High Court the Duke of NORTHUMBERLAND explained to his lordship that the provision had been introduced at the instance of Lord Lindley and said that it could not possibly do any harm.

On the motion of Lord WELBY Clause 6 was made to read that the Central Midwives Board shall, with the previous sanction of the Privy Council, appoint a secretary and such other officers as may be required and every person so appointed shall be paid such salary as the Privy Council may approve and shall be removeable at the pleasure of the Board.

Lord BELPER moved the omission of Clause 7 which said that: "Where a person whose name is entered on the roll of midwives has, either before or after the passing of this Act, and either before or after her name is so entered on the roll, been convicted either in His Majesty's dominions or elsewhere of an offence which, if committed in England, would be a felony or misdemeanour, or been guilty of any disgraceful conduct in her practice as a midwife, that person shall be liable to have her name erased from the roll. The Midwives Board shall cause inquiry to be made into the case of a person alleged to be liable to have her name erased under this section and on proof of such conviction or of such disgraceful conduct shall cause the name of such person to be erased from the roll." His lordship described the clause as most objectionable and absolutely unnecessary, having regard to the disciplinary powers of the Board in Clause 3.

The Duke of NORTHUMBERLAND said that this was an agreed clause in the House of Commons and he understood that the Government made no objection to its insertion in that House. If it were struck out now he hoped that the Government would see that the Bill did not suffer in consequence when it was returned to the House of Commons without it.

The clause was struck out of the Bill.

Some discussion took place as to the character of the notice of the Act to be given by county councils to midwives, but no change was made in the Bill, it being understood that Lord Belper would bring up a new set of words on the report stage.

This completed the consideration of the Bill which was ordered to be reported to the House.

BOOKS, ETC., RECEIVED.

BAUERMEISTER, F., 49, Gordon-street, Glasgow. (J. F. BERGMANN, Wiesbaden.)

Einführung in die Physikalische Anatomie. Von Dr. Hermann Triepel, Privatdocent und Prosektor am Anatomischen Institut in Greifswald. I. Teil: Allegemeine Elasticitäts- und Festigkeitslehre in Elementarer Darstellung. II. Teil: Die Elasticität und Festigkeit der Menschlichen Gewebe und Organe. Price 6s., or M. 6.

Verhandlungen der Achtzehnten Versammlung der Gesellschaft für Kinderheilkunde in der Abtheilung für Kinderheilkunde der 73. Versammlung der Gesellschaft Deutscher Naturforscher und Aerzte in Hamburg, 1901. Herausgegeben von Geheime Sanitätsrath Dr. Emil Pfeiffer, Pract. Arzt in Wiesbaden. Price 8s. 6d., or M. 8.40.

Die Otitischen Erkrankungen des Hirns, der Hirnhäute und der Blutleiter. Von Dr. Otto Körner, O. Ö. Professor der Medicin

Direktor der Klinik und Poliklinik für Ohren- und Kehlkopfkranke in Rostock. Mit einem Vorwort von Ernst von Bergmann. Dritte, vollständig umgearbeitete und vermehrte Auflage. Price 7s., or M. 7.

Bericht über die Neunundzwanzigste Versammlung der Ophthalmologischen Gesellschaft. Heidelberg, 1901. Unter Mitwirkung von W. Hess, sen., E. von Hippel, und Th. Leber; redigirt durch A. Wagenmann. Price 8s. 9d., or M. 8.60.

Schwindel. Von Dr. Rudolf Panse, Ohrenarzt und Oberarzt am Diakonissenhaus Dresden-Neustadt. Sonder-Abdruck aus Zeitschrift für Ohrenheilkunde, Band xli. Price 1s. 6d., or M. 1.20.

Grundriss zum Studium der Geburtshülfe. In Achtundzwanzig Vorlesungen und Fünfhundert-fünfundsiebenzig Bildlichen Darstellungen. Von Dr. Ernst Bumm, Ord. Professor und Direktor der Universitäts-Frauenklinik in Halle A.S. Price 14s., or M. 14.

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

St. Thomas's Hospital Reports. New series. Edited by Dr. Hector Mackenzie and Mr. G. H. Makins, C.B. Vol. xxix. Price 8s. 6d.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square, W.

Clinical Illustrations of Diseases of the Fallopian Tubes and of Early Tubal Gestation. A series of drawings with descriptive text and histories of the cases. By Charles J. Cullingworth, M.D., Hon. D.C.L. Durh., F.R.C.P., Obstetric Physician to St. Thomas's Hospital, London. Third edition, revised. Price 10s. 6d. net.

GOOD, CHARLES, AND COMPANY, Burleigh-street, Strand, W.C.

Religio Medici: Religio Scientiæ, Religio Vitæ, 1901. By a Student of Science and Medicine, 1849–1899. Price 3s. 6d.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Beobachtungen und Untersuchungen über die Ruhr (Dysenterie). Die Ruhrepidemie auf dem Truppenübungsplatz Döberitz im Jahre 1901 und die Ruhr im Ostasiatischen Expeditionskorps. Zusammengestellt in der Medizinal-Abtheilung des Königlich Preussischen Kriegsministeriums. Price M.10.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

The Diagnosis of Surgical Diseases. By Dr. E. Albert, late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorised translation of the eighth enlarged and revised edition by Robert T. Frank, A.M., M.D. Price 18s. net.

A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia. Fourth edition, revised and enlarged. Price 21s. net.

LANE, JOHN, The Bodley Head, London and New York.

The Book of Vegetables. By George Wythes, V.M.H., Head Gardener to the Duke of Northumberland, K.G. Together with chapters on the History and Cookery of Vegetables. By the editor (Harry Roberts). Price 2s. 6d. net.

MASSON ET CIE, 120, Boulevard Saint-Germain, Paris.

Les Tics et leur Traitement. Par Henry Meige et E. Feindel. Préface de M. le Professeur Brissaud. Price 6 francs.

REALE ACCADEMIA DEI LINCEI, Rome.

Patologia Embrionale Infettiva. Intorno alla Fisiopatologia dell' Embrione di Pollo. Memoria I del Corrispondente, Angelo Maffucci. Price not stated.

SAUNDERS, W. B., AND CO., Philadelphia and London.

Atlas and Epitome of Operative Surgery. By Dr. Otto Zuckerkandl, Privat-docent in the University of Vienna. Second edition, revised and enlarged. Authorised translation from the German. Edited by J. Chalmers Da Costa, M.D., Professor of the Principles of Surgery and of Clinical Surgery in Jefferson Medical College, Philadelphia. Price 15s. net.

Diseases of the Nose, Pharynx, and Ear. By Henry Gradle, M.D., Professor of Ophthalmology and Otology in the North-western University Medical School, Chicago. Price 15s. net.

Nothnagel's Encyclopedia of Practical Medicine. Diphtheria, by William P. Northrup, M.D.; Measles, Scarlatina, German Measles, by Theodor von Jürgensen, M.D., Professor of Medicine at the University of Tübingen. Edited, with additions, by William P. Northrup, M.D., Professor of Pediatrics in the University and Bellevue Hospital Medical College, New York. Authorised translation from the German, under the editorial supervision of Alfred Stengel, M.D., of Pennsylvania. Price 21s. net.

SCOTTISH MEDICAL AND SURGICAL JOURNAL, THE, LIMITED, Edinburgh.

The Scottish Medical and Surgical Journal. Edited by Norman Walker, M.D., F.R.C.P. Edin., and Harold J. Stiles, M.B. F.R.C.S. Edin. Vol. x. (January to June). Price not stated.

STOCK, ELLIOT, 62, Paternoster-row, E.C.

A Lady Nurse of the Times. By Frederick James Gant, F.R.C.S., Consulting Surgeon to the Royal Free Hospital, Vice-President of the Royal British Nurses' Association. Price 1s. net.

TAYLOR, J. AND H., 54, Tenby-street North, Birmingham.

The Key to Sight-testing: A Supplement to the Practical Optician's Guide. By Harry L. Taylor (author of the Practical Optician's Guide) and William S. Baxter. Price not stated.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, W.C.

Studies in Heterogenesis. By H. Charlton Bastian, M.A., M.D., F.R.S., Emeritus Professor of the Principles and Practice of Medicine and of Clinical Medicine in University College, London. Second Part. Price 7s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDERSON, A. J., M.B., C.M. Edin., has been re-appointed Medical Officer of Health to the Wortley Rural District Council.

BARLET, JEHAN M., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Medical Officer to the French Hospital, 172, Shaftesbury-avenue, W.C.

BROWN, WILLIAM, M.D., C.M. Glasg., has been appointed Medical Officer to the Children's Home of the Bristol Board of Guardians at Staple Hill.

BUTLER, G. E., M.R.C.S., L.R.C.P. Lond., has been appointed Health and Medical Officer for Montagu, Tasmania.

MCCARROLL, J., M.B., B.Ch., R.U.I., has been appointed Casualty Medical Officer of the Middlesex Hospital.

PEATLING, A. V., B.A., M.B., B.C. Cantab., has been appointed Honorary Medical Officer to the Carshalton Cottage Hospital.

PIKE, C. J., M.B. Lond., has been appointed Vaccinator for the Registration District of Launceston, Tasmania.

PURCHAS, FREDERICK MAURICE, M.B. Edin., has been appointed a Port Health Officer for the Port of Kaipara, New Zealand.

RIGBY, F. W., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Act for the Bacup District of Lancashire.

ROWNTREE, C. W., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Surgical Officer to the Middlesex Hospital.

STEWART, J., L.R.C.S. Irel., has been appointed Public Vaccinator for the Municipal Districts of Hamilton and Bothwell, Tasmania, and Medical Officer of Health at Hamilton.

VOWELL, CHARLES MARTIN, M.R.C.S. L.R.C.P. Edin., has been appointed a Public Vaccinator for the District of Opunake, New Zealand.

WRIGHT, JOHN ALDRAN, M.A., M.D. Cantab., has been appointed Assistant Physician to Addenbrooke's Hospital.

Vacancies.

For further information regarding each vacancy references should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BEVERLEY EAST RIDING LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £165, increasing to £195 per annum, with board, lodging, and washing.

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANITORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL HOSPITAL.—Three House Physicians, each for six months, renewable. Salary at rate of £50 per annum, with residence, board, and washing. Also House Surgeon for six months. Salary at rate of £50 per annum, with residence, board, and washing.

BIRMINGHAM QUEEN'S HOSPITAL.—House Surgeon. Salary at rate of £50 per annum, with board, lodging, and washing.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Two House Surgeons. Salary £160 per annum, with apartments, washing, and attendance.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance.

CAMBRIDGE ADDENBROOKE'S HOSPITAL.—Senior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

CHICHESTER INFIRMARY.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

DEVONPORT ROYAL ALBERT HOSPITAL.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodgings.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—Medical Officer for the Casualty Department for six months. Salary at rate of £100 per annum, and luncheon. Also Assistant Surgeon.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Senior House Surgeon for six months. Salary at rate of £60 per annum, with board, lodging, and washing. Also Junior House Physician fo three months. Salary at rate of £30 per annum, with board lodging, and washing.

HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with rooms, coal, and gas.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, rising to £200, with board, lodging, and attendance.

HOSPITAL OF ST. FRANCIS, New Kent-road, S.E.—Two Casualty Medical Officers.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for not less than six months. Salary £80, with board and lodging.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £60 per annum (according to stay), lodging, and allowances.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

LEEDS GENERAL INFIRMARY.—Resident Ophthalmic Officer. Salary £50 a year, with board and lodging.

LIVERPOOL, CITY OF, INFECTIOUS DISEASES HOSPITALS.—Two Assistant Resident Medical Officers, unmarried. Salary £120 per annum each, with board, washing, and lodging.

LIVERPOOL DAVID LEWIS NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance. Also Honorary Anæsthetist.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON FEVER HOSPITAL, Liverpool-road, Islington, N.—Physician. Also Assistant Physician.

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board, residence, and washing.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Medical Officer. Salary £180 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury.—Pathologist. Honorarium 50 guineas per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Harthill, Stoke-upon-Trent.—Assistant House Surgeon for six months. Board, apartments, and washing, and at least £25 as honorarium.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road. — Assistant Surgeon.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £200 per annum, increasing by £15 every year. Also Assistant Resident Surgeon, unmarried. Salary £160 per annum, increasing by £10 every year, with apartments, attendance, light, and fuel in each case.

ST. GILES (CAMBERWELL) INFIRMARY, Havil-street, Camberwell, and WORKHOUSE at Gordon-road, Peckham.—Assistant Superintendent. Salary £150 per annum, with apartments, board, and washing. Also Third Assistant Medical Officer. Salary £50, with apartments, board, and washing.

ST. MARY'S HOSPITAL, Paddington, W.—Assistant Ophthalmic Surgeon.

SALOP INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board and apartments.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £160 per annum, rising to £200, with apartments, board, &c.

SOUTH HANTS AND SOUTHAMPTON (ROYAL) HOSPITAL.—Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—Second House Surgeon and Anæsthetist, unmarried. Salary £80 per annum, with board and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer, Salary £75, with board, apartments, washing, and attendance.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

AUSTIN ROBINSON.—On June 8th, at The Sanatorium, Durban, Natal, Dr. Lilian, wife of F. Austin Robinson, M.R.C.S., L.R.C.P., &c., of a daughter.

GREENWOOD.—On July 2nd, at Corby, Grantham, the wife of A. C. Greenwood, M.R.C.S., L.R.C.P. Lond., of a daughter.

MACKINTOSH.—On July 6th, at Corner House, Platts-lane, Hampstead, the wife of J. S. Mackintosh, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

MAIN.—On June 25th, at Brook House, Bollington, Cheshire, the wife of D. W. Main, M.B., Ch.B. Vict., of a son.

ROSS.—On June 30th, at Edith-road, West Kensington, the wife of Alfred Ross, L.R.C.P., L.R.C.S. Edin., of a son.

STABB.—On July 2nd, at 57, Queen Anne-street, W., the wife of Ewen C. Stabb, F.R.C.S., of a son.

MARRIAGES.

BOOKER—MAY.—On July 5th, at St. Mary's, Kelvedon, Essex, Charles William Booker, F.R.C.S. Eng., of Witley, Surrey, to Ada Constance, third daughter of the late George May, Tiptree Hall.

HATHAWAY—BUNYARD.—On July 2nd, at St. Mary Magdalene's Church, St. Leonards-on-Sea, by the Rev. Edward Clowes, rector, assisted by the Rev. Morris Roberts, vicar of St. Matthias, Poplar, Frank John Hathaway, M.B., Ch.B. Edin., of Mottingham, Kent, youngest son of the late J. Hathaway, Esq., of Allahabad, to Rose Mabel, third daughter of Thomas Bunyard, Esq., of St. Leonards-on-Sea.

RUSHY—WRIGHT.—On the 3rd inst, at St. John the Divine, Kennington, E. L. M. Rushy, M.B. Lond., to Katherine Helen, daughter of Mr. G. Wright.

DEATH.

CURNOW.—On July 5th, at Wimpole-street, Cavendish-square, W.C., after a short illness (acute pneumonia), John Curnow, M.D. Lond., F.R.C.P. Lond., in his 57th year, of King's College Hospital.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A PLEA FOR THE FINAL YEAR STUDENT.

To the Editors of THE LANCET.

SIRS,—It was with a feeling of disappointment that I read the criticisms on my former letter by Dr. N. F. Stallard. I had hoped that if an adverse expression of opinion were necessary some senior member of our profession would have given it, but this maintained silence leads me to believe, possibly with presumption, that part, if not the whole, of my letter has found favour in their eyes. With your kind permission I shall endeavour to reply to those criticisms. As regards pharmacy I still adhere to my opinion that two hours' work in that subject could make a student of average ability prescribe with facility any necessary drug, as the art of combining medicines belongs more to materia medica than to pharmacy and a knowledge of their properties must be acquired prior to their use. If, as Dr. Stallard asserts, we would be at the mercy of the dispensing chemist, I fail to see any humility in appealing to the judgment of men who are, and have to be, better versed in the art of pharmacy and materia medica than the average medical man, and in this country more attention is, as a rule, paid to prescribing what will relieve and cure a patient than to elegance in writing prescriptions, which latter accomplishment involves very slight brain exertion on the part of the writer. His argument and comparisons as to biology and pathology constituting the A B C of our professional training are really too absurd, as pathology, which is rendered compulsory in the final of most curricula, could hardly for that reason lay claim to a position in the medical alphabet, and the too numerous divergent opinions arising from its subject matter must always prohibit it from being standardised. In the same way biology, which only within the past few years has become a part of the curriculum, and did not enter into the studies of most of our present day teachers, cannot, with justice, lay claim to being part of the early foundation of a science which has been known and practised for centuries. In my opinion anatomy should rightly be called the alphabet of the profession. I admit that I have indeed heard of the serum treatment of diphtheria but, personally, I have little faith in it, as, if one hears of pneumonia, pertussis, and follicular tonsillitis, &c., being diagnosed and treated with the now familiar "needle in the back" and serum injection, and with, needless to observe, brilliant results, one can hardly wonder at the astonishing numerous statistics adduced in its favour. For the benefit of Dr. Stallard's future experience let me say that real genuine diphtheria is a comparatively rare disease, and, in my opinion, fatal in children of tender years; after puberty the anatomical changes in the throat render a more favourable prognosis for the sufferer. The recognition of the bacillus of tuberculosis in a phthisical patient is, to my mind, of practically no importance for the following reasons—viz., the bacillus can do no harm unless the host has an hereditary predisposition to the disease and, also, once phthisis has developed under the same conditions, very little except of a palliative nature can be done for the patient. It has yet to be proved to my satisfaction that phthisis is curable and that the bacillus is the direct cause of the disease, which some pathologists imagine it to be. As regards sending a consumptive to a sanatorium, fully as much benefit, in my opinion, can be derived from sending him or her to the seaside, or on a long sea voyage, as it is a well-known fact that phthisical subjects under those conditions regain a certain amount of health and may live for a score of years, and that being so, why make a speciality of the "open-air treatment"? I venture to predict that after a few years' busy practice Dr. Stallard will considerably modify his views on certain points and begin to think that, after all, certain diseases are not, in practice, so formidable as they are depicted in theory, and if he views and treats his cases more from a clinical than from a microbic standpoint he will have better results in his practice. With reference to the use of antiseptics I may add, *en passant*, that I would use them under no conditions as they are entirely unnecessary where there is an abundance of clean water and soap present. Apologising for this lengthy letter,

I am, Sirs, yours faithfully,

R. H. D. POPE, L.R.C.S. Irel.

Belfast, June 16th, 1902.

THE HOLIDAYS OF IRISH POOR-LAW MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—I see in your issue of June 28th, p. 1868, a notice of the correspondence, &c., which I forwarded to you relative to my difficulty in obtaining annual leave from the Abbeyleix board of guardians and the Local Government Board, which I beg leave to thank you for having inserted in your journal. At the same time I must draw your attention to some points on which you appear to be under misapprehension. First, the heading under which your notice appears is misleading. So far from being merely a personal or trivial matter it is one which seriously affects the majority of Irish dispensary medical officers at present and it is only by giving publicity to the grievances under which they suffer inindividual cases that they can hope for universal redress. Your statement

that there appears to have been some informality on my part in making my application for leave is quite inaccurate. If you refer to the correspondence and copy of minutes of the Abbeyleix board you will see that I carefully fulfilled every condition of the dispensary rules and that my application came before the board in due course. It would also seem from your article in THE LANCET that the Abbeyleix board had some just grounds of "displeasure" against me. Their sole reason for refusing my leave was that some time previously, they having refused to pay me my fees under the Labourers Inquiry Act, I was obliged to recover same from them in the county court, which the verdict proved I was legally entitled to.

I am, Sirs, yours faithfully,

July 3rd, 1902. R. H. D'OLIER DUCKWORTH.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Mrs. Fardon (and friends), Mr. Edgar Stevenson (who sends a donation from "Anon"), Civilian Surgeons S. Forsdike and J. A. Howard, and the following officers of the Royal Army Medical Corps: Colonel W. L. Gubbins; Lieutenant-Colonels F. W. Trevor, J. C. Dorman, C.M.G., G. H. Sylvester, W. J. Macnamara, A. G. Kay, and T. P. Woodhouse; Majors C. H. Melville, J. W. Bullen, R. I. Power, F. S. Le Quesne, V.C., C. H. Hale, D.S.O., W. T. Swan, W. Dowman, A. A. Sutton, D.S.O., M. P. Holt, M. W. H. Russell, H. C. Thurston, C.M.G., E. Davis, M. Kelly, J. M. F. Shine, T. Daly, J. G. Black, O. R. A. Julian, C.M.G., W. Turner, D. Stiell, and A. Y. Reily; Captains C. A. Stone, S. F. St. D. Green, H. S. Thurston, C. J. O'Gorman, D.S.O., J. R. McMunn, E. H. Condon, G. S. Crawford, G. E. F. Stammers, W. W. O. Beveridge, E. C. Anderson, D.S.O., C. W. H. Whitestone, B. Forde, N. Tyacke, and E. M. Morphew; Lieutenants G. M. Goldsmith, B. R. Dinnis, H. H. Norman, A. J. W. Wells, S. Adye-Curran, J. A. Hartigan, and A. W. A. Irwin; and the officers with the columns under Colonel Little and Colonel Fanshawe. The fund now amounts to £416. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

A POINT IN ETHICS.

To the Editors of THE LANCET.

SIRS,—May I ask what is usual in the following case? I attended a midwifery case for a fellow practitioner on an emergency. I had to drive five miles out into the country and was away from home four hours. Should I act in accordance with custom if I accepted a whole or part of the fee from the practitioner whose case it was, or is it usual for one medical man to act for another in such a case without fee at all?

I am, Sirs, yours faithfully,

July 4th, 1902. M.D.

*** The fairest course in such a case is to divide the fee.—ED. L.

HOLIDAY COURSES IN BERLIN.

G. S. L. will feel obliged for information as to the holiday courses for medical studies in Berlin.

THREAD-WORMS AND APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of July 5th, p. 58, a correspondent who signs himself "Harlesden" asks whether appendicitis in a child is likely to be caused by thread-worms and whether the case to which he refers in which the association was observed is unusual. I venture to refer your correspondent to an article in the *British Medical Journal* of April 15th, 1899, in which the presence of thread-worms in the vermiform appendix was shown to be a frequent occurrence in children. In one case recorded there 111 thread-worms were found in the appendix which was swollen and thickened. In this particular case the boy, aged nine years, had complained of pain in the right iliac fossa which had given rise to suspicion of appendicitis. That a catarrhal condition of the appendix may occur from such a cause was clear from the series of observations there recorded; the appendix was found to be swollen and thickened in several cases, "indeed, it was sometimes possible to predict the presence of thread-worms in the appendix before opening it from its swollen appearance." Obviously if the vermiform appendix is a common habitat of the thread-worm—out of 38 cases in which the oxyuris vermicularis was present in children the worm was found in the appendix in no less than 25—the presence of thread-worms in that situation in any case of appendicitis may be a mere coincidence, but the frequency of swelling of the wall of the appendix when the worms are there suggests, at least, that a more acute inflammation may result in some cases. Whether the presence of thread-worms is in itself sufficient to cause such inflammation is a difficult point to determine, but it hardly affects the question of etiological significance, for there can be little doubt that any irritation which produces such a catarrhal condition of the appendix as was present in these cases will almost certainly diminish the resistance of the wall of the appendix to invasion by micro-organisms and so predispose to a more extensive ute inflammation. Since this paper was published at least one case of appendicitis associated with thread-worms in the appendix has been recorded. A boy, aged about eight years, underwent operation for catarrhal appendicitis at the Presbyterian Hospital in New York and "section of the organ showed several specimens of oxyuris in the lumen" (Pediatrics, May 15th, 1900, p. 411). The very similar case mentioned by your correspondent is of considerable interest in relation to the observations mentioned above. I have used the term "appendicitis" here advisedly, as apart from its ugly hybridism, it is evidently more accurate for these particular cases than the word "perityphlitis."

I am, Sirs, yours faithfully,

July 5th, 1902. GEORGE F. STILL.

To the Editors of THE LANCET.

SIRS,—It may interest your correspondent "Harlesden" to know that on the 2nd of this month a lad was operated upon here for what appeared to be recurrent slight attacks of appendicitis. The appendix was removed although it appeared to be normal, but on cutting into it afterwards a live thread-worm was found at its apex.

I am Sirs, yours faithfully,

The Infirmary, Leicester, July 6th, 1902. F. BOLTON CARTER.

*** We refer our correspondents to an annotation which appeared in THE LANCET as recently as February of this year (THE LANCET, Feb. 22nd, 1902, p. 539), entitled, "Appendicular Colic from Thread-worms in the Vermiform Appendix."—ED. L.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

THE following additional subscriptions have been received by Dr. Paramore, 2, Gordon-square, W.C.:—

	£	s.	d.
Mr. James Dibble Stapie	0	5	0
Dr. Arthur Blundell Stevens (with offer of further help if necessary)	3	3	0
Mr. Alfred Berthier Oslen	0	5	0
Mr. Henry Frederick Semple	0	5	0
Mr. Joseph Harvey Sutcliffe	1	1	0
Dr. T. Rudolph Smith ...	1	1	6
Mr. J. Goodwin Shea ...	0	5	0
Mr. Robert Megginson ...	0	5	0
Mr. Arthur Wilson Shea	0	5	0
Mr. Harry James Spon	0	10	0
Mr. Nugent Edward Smyth	0	2	6
Dr. Edward Percival Dickin	0	5	0
Mr. Hector Lask	0	5	0
Mr. James Irving Lace ...	0	10	6
Mr. Alfred Keppel Barrett	0	5	0
Dr. Percy Boulton	1	1	0
Dr. George Lindsay Turnbull	1	1	0
Mr. Richard William Tomlinson Brooks ...	1	4	0
Mr. Samuel Biggar Giffen McKinney	1	1	0
Mr. Albert Charles Butler-Smyth	1	0	0
Mr. George Weiland Mackenzie	1	1	0
Mr. Herbert Lucas	0	10	6
Mr. Matthew Brownfield	1	1	0
Dr. Harold Edward Huntley	1	1	0
Dr. Robert Miller	1	1	0
Mr. Edward Bartlett ...	1	1	0
A. P. S.	0	3	6
Dr. George A. Cargil Shipman	0	5	0
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Mr. George Frederick Maberly	1	1	0
Mr. Walter J. Roslfe Cox	0	10	6
Mr. William Scoble Mackenzie	0	5	0
Mr. George Brown... ...	0	10	6
Mr. John Marshall (second donation) ...	0	5	0
Dr. Samuel McBean ...	0	10	0
Dr. Peter William Macdonald	0	10	0
Dr. Sydney Henning Belfrage	0	10	6
Dr. Theodore Maxwell ...	0	5	0
Mr. Frederick Hone Moore	1	0	0
Dr. Peter Macdonald ...	0	5	0
Rev. Joseph Mitchell, M.D. St. And.	0	5	0
Mr. Sydney Pool Lowdell	1	0	0
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Mr. Thomas Jackson, J.P.	0	4	0
Dr. E. W. Diver	0	5	0
Mr. J. H. Waddington ...	0	5	0

THE ASSOCIATION OF GERMAN PRACTITIONERS AND NATURALISTS.

To the Editors of THE LANCET.

SIRS,—In answer to the question of your correspondent (W. S.) in THE LANCET of June 28th, p. 1868, relative to the "Society of German Scientists and Doctors," he will obtain the information he requires by applying to Herrn Primarius Dr. Finck, Geschäftsführer der "Gesellschaft Deutscher Naturforscher und Aerzte" (für 1902), Karlsbad.

I am, Sirs, yours faithfully,

Tiefenau, Zürich, July 2nd, 1902. A. PARISS.

ADVERTISEMENT.

THE rules governing medical etiquette are in some ways different in the colonies from what they are in this country. Thus in Australia and New Zealand it is the custom for medical men to advertise their names, addresses, and the hours at which they may be seen in the public press. This, we have no doubt, is necessary in a somewhat sparsely inhabited country and in one where patients have to come from great distances. There are, however, limits beyond which advertisement should not go and a pamphlet which we have received, to our thinking, transcends these limits. It is entitled, "Testimonials

to Dr. E. G. Leger Erson, Physician and Surgeon (Registered in Great Britain and Australasia)." We cannot find Mr. Erson's name in the Medical Register for 1902, but in the Australasian Medical Directory for 1896 we find that he is entered as "L. et L. Mid. R.C.P. Edin. 1876." From the testimonials, copies of which, we hear, are distributed broadcast, we presume that Mr. Erson is at present—for by internal evidence the pamphlet appeared during last year—surgeon to the Peak Hill Hospital. He has "late" and "formerly" held a number of appointments ranging from that of honorary physician to the Auckland Hospital to that of Vice-president of the Manly Bowling Club. From his testimonials we also learn that people listen with rapture "to the well-rounded quality of his superb tenor voice and the effectiveness of rendition." A superb tenor voice is an enviable possession, but we think that Mr. Erson would be well advised not to scatter the pamphlet to which we have referred among either his own or other practitioners' patients.

THE KING AND THE QUACK.

A CORRESPONDENT has sent us a copy of the *Weekly Times and Echo* published on Sunday, July 6th, and has marked an article from the pen of Mr. T. R. Allinson entitled "How the King might have been Cured without Operation." The article contains such useful pathology as the attributing of perityphlitis to the use of tea, coffee, and tobacco and recommends as treatment warm sponging once or twice a day in a bed in a room with the window open—"no drugs are given and no operation is advised." The person we are quoting is, of course, well known to the medical profession as one who lives by abusing that profession to which he once belonged. In an answer to correspondents on the same page he says: "If I had seen the King on the Monday by the following Monday he would have been up and about and that without operation. The drug doctors know nothing of what nature will do. I have cured at least two dozen cases like his without an operation or a drop of medicine." We suppose this sort of audacious balderdash results in poor dupes going to see Mr. Allinson. The newspaper which publishes such rubbish incurs a grave responsibility. Unfortunately, the responsibility is only a moral one.

FUND FOR MEMORIAL TO LATE SURGEON-GENERAL NASH.

THE following additional subscriptions to the above fund have been received. The fund will be closed on August 2nd.

	£	s.	d.
Lieutenant-Colonel R. H. Nicholson	0	10	6
Surgeon-General T. Tarrant	1	0	0
Major E. S. Marder ...	0	15	0
Lieutenant-Colonel A. M. Davies	0	10	6
Deputy Surgeon-General H. F. Smith, J.P. ...	1	1	0
Brigade-Surgeon E. A. Gibbon	1	1	0
Major M. O'Halloran ...	0	5	0
Lieutenant-Colonel J. W. Brazier-Creagh, C.M.G.	0	10	6
Lieutenant-Colonel E. R. Cree	1	0	0
Major G. Scott (short acknowledged)	0	5	0
Previously acknowledged 104	2	6	
Total £111	1	0	

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers could help me in the matter of a phthisical patient. She spent last winter in a sanatorium in the south and was much benefited and I think the prospect of cure is fairly good if she could continue the treatment. This she is unable to do for want of funds but would gladly accept a position as nurse or helper in such an institution, either for a very small salary or in return for board and treatment. She is a good amateur nurse and has nursed several cases of phthisis (from which, no doubt, she contracted the disease) and her condition is at present quite good enough to enable her to do light work. She is of a very bright and cheery disposition. I should be glad if anyone interested would communicate with me. I am, Sirs, yours faithfully.

Wylam-on-Tyne, July 4th, 1902. W. H. BISHOP.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if someone will kindly inform me through the medium of your "Answers to Correspondents" column whether there exists a suitable home for a young lady of small means suffering from hysteria in rather a severe form. A place where Weir-Mitchell's treatment is in vogue would be preferable.

I am, Sirs, yours faithfully,

D. LL. K. PRICHARD, M.R.C.S. Eng., L.R.C.P. Lond.

The Ferns, Bettws-y-Coed, N.W., July 7th, 1902.

THE BACKBONE OF ANTI-VACCINATION.

IN an annotation upon the Imperial Vaccination League which appeared in our issue of July 5th, p. 33, we mentioned that most of the detractors of vaccination were men and women of no intellectual calibre. Unfortunately, persons of this description are just those who gain the ear of the masses. In the issue of the *Northern Echo* of June 27th there are two typical advertisements emanating from an anti-vaccinationist. His name is J. Clayton and he lives at Middlesbrough. He calls himself a medical herbalist and tumour specialist, but he gives advice and treatment with regard to all complaints. During the last nine years he has taken off over 200 tumours without cutting from almost every part of the body—"Cause, Vaccination." Mr. Clayton's views on pathology are simple. He professes to believe that vaccination causes tumours "because when the tumour comes off you can see the same number of holes in the part where the tumour comes off, oozing with matter that correspond to the same number of marks that are on the arm, so that it leaves no doubt on the subject." Mr. Clayton further states that when the calf lymph travels to the liver it breeds small-pox, when it travels to the throat diphtheria. When the lymph travels to the brain we have diseases of the mind. We are compelled to think from this remark that Mr. Clayton has evidently been vaccinated.

INDEPENDENCE DAY AND TOY PISTOLS.

THE most universal method of celebrating a joyous occasion is to make a noise. The youthful Britisher blows horns and squeakers or howls in the street. The youthful American lets off toy pistols. Sometimes these inflict wounds and in the year 1900 there were 24 persons who died from tetanus in Chicago from wounds received on Independence Day. This set the health authorities thinking and this year the mayor issued a proclamation against the discharge of dynamite, firearms, and cannon crackers, and especially against the sale of toy pistols or metal caps to children. The result of this was that only four persons died from tetanus owing to injuries received on Independence Day this year. Over here the toy pistol is fatal not so much from tetanus as from direct injury. Various attempts have been made in Parliament to pass a Pistols Bill which should prevent the sale of these lethal toys, but the last Bill brought in was thrown out mainly, so far as we remember, owing to the opposition of a Radical Member.

Sybil.—The treatment is rubbish. The indecent questions that are asked have no bearing on the condition. The advertisers are dangerous quacks.

R. G. T.—Full information will be found in "Neale's Digest." The original lectures were published in THE LANCET.

L. P. proposes to take exactly the right course.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (15th).—SOCIETY FOR THE STUDY OF INEBRIETY (London Temperance Hospital, Hampstead-road).—3.30 P.M. Council Meeting. 4 P.M. Paper:—Dr. R. Jones: Mental Dissolution, the Result of Alcohol.

WEDNESDAY (16th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Hotel Cecil, Strand, W.C.).—6.30 P.M. Annual General Meeting. 7.30 P.M. Annual Dinner. Dr. H. Ashby in the chair.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Turner.

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. E. Squire: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Methods and Significance of Examination of the Blood.

POST-GRADUATE CLINICAL DEMONSTRATION (Westminster Hospital).—4.30 P.M. Dr. Hebb: Cases from the Out-patient Department.

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: The Varieties and Treatment of Ocular Injuries.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Schorstein: Emphysema.

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Injuries.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Diseases of the Kidneys in Children.

CHARING CROSS HOSPITAL.—4 P.M. Dr. W. Hunter: Pathological Demonstration. (Post-Graduate Course.)

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Acute Intestinal Obstruction.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 10th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
July 4	30·07	S.W.	...	120	60	53	55	60	Cloudy
,, 5	30·17	N.W.	...	122	62	59	63	67	Cloudy
,, 6	30·23	S.E.	...	116	76	63	63	71	Hazy
,, 7	30·07	N.	...	127	86	63	66	71	Hazy
,, 8	30·14	W.	...	125	89	62	60	66	Hazy
,, 9	29·94	W.	...	110	75	63	62	66	Cloudy
,, 10	29·66	W.	0·28	94	63	55	55	61	Cloudy

During the week marked copies of the following newspapers have been received:—*Pioneer Mail, Devon and Exeter Express, Dublin Evening Telegraph, Southampton Echo, Lancaster Guardian, Echo, Daily Express, Standard, Bristol Mercury, Windsor and Eton Express, Globe, Westminster Gazette, Sunday Times, Derbyshire Times, Torquay Directory, Reading Mercury, Herts Advertiser, Times of India, Aberdeen Free Press, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Mercury, &c.*

Communications, Letters, &c., have been received from—

A.—M. J. Astier, Asnières, France; Alexander Manufacturing Co., Lond.; Apollinaris Co., Lond.; Messrs. Allen and Hanburys, Lond.; Mr. H. E. Armstrong, Newcastle-on-Tyne; A. G.; Dr. J. Arkwright, Halesowen; Association for Promoting Compulsory Registration of Midwives, Secretary of, Ealing; Dr. Edward Adamson, Rye; Sister Amy, Maidstone.

B.—Dr. Guiseppe Bellei, Bologna; Dr. George Brown, Colchester; Mr. C. H. Brown, Philadelphia, U.S.A.; Dr. D. Bower, Bedford; T. B. Browne, Ltd., Lond.; Messrs. J. H. Booty and Son, Lond.; Surgeon-General A. F. Bradshaw, C.B., Oxford; Messrs. J. and H. Bell, Nottingham; Birmingham General Hospital, House Governor of; Professor C. H. Bidford, Calcutta; Dr. G. Sandison Brock, Lond.; Birmingham University, Registrar of; Dr. W. Tyrrell Brooks, Oxford; Dr. Bond, Gloucester; Messrs. C. Barker and Sons, Lond.; Messrs. C. Birchall, Liverpool; Mr. J. Boot, Nottingham; Dr. George Brown, Brighton; Dr. H. Biss, Lond.; *Building News*, Editor of.

C.—Mr. R. H. Crombie, Banchory; Cortland Wagon Co. Lond.; Messrs. Carnrick and Co., Lond.; Cardiff Infirmary, Secretary of; Crown Perfumery Co., Lond.; Dr. D. Louis Cairns, Glasgow; Dr. J. R. T. Conner, Lond.; Dr. Richard Caton, Liverpool; Mr. Frank Candy, Lond.; C. A. B.; Central Insurance Co., Birmingham.

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